Ensuring Environmental Compliance

TRENDS AND GOOD PRACTICES



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Foreword

This report presents a comparative study of environmental compliance assurance systems in eight countries representing different legal, institutional, and cultural settings: six OECD countries (Finland, France, Japan, the Netherlands, the United Kingdom, and the United States) and two non-OECD countries (China and Russia).

The report contributes to the realisation of the Strategic Vision of the OECD Environmental Policy Committee (EPOC) (2006) by assisting governments in effective and efficient implementation of their environmental policies through policy-relevant analysis and cross-country exchange of information and experiences. It is in line with the OECD Framework for Effective and Efficient Environmental Policies (2008) which states that "no environmental policy instrument will be environmentally effective or economically efficient without appropriate compliance assurance mechanisms".

The study provides policy makers, environmental regulators, and other stakeholders with a comprehensive analysis of the design, management aspects, and the main elements of government programmes to ensure compliance with pollution prevention and control regulations, particularly in the industrial sector. Focusing on compliance promotion, compliance monitoring, and non-compliance response, it identifies and compares good practices observed in the studied countries, sets them in context of respective regulatory cultures, and points to the key trends across the different systems.

The report's conclusions were discussed at the international conference "Environmental Compliance Assurance: Trends and Good Practices" which was held in Paris on 17-18 November 2008 and brought together over 50 participants from 17 countries, representing environmental authorities, industry, academic experts, and NGOs. It was further considered and endorsed at the 14th meeting of the OECD Working Party on National Environmental Policies (WPNEP) on 19-20 November 2008.

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Acronyms and Abbreviations

General

ADR	Alternative dispute resolution
BAT	Best available techniques
BREF	EU Best available techniques reference document
EIA	Environmental impact assessment
ELV	Emission limit value
EMS	Environmental management system
EMAS	Eco-Management and Audit Scheme
EQS	Environmental quality standard
FY	Fiscal year
GBR	General binding rules
GIS	Geographical information system
IPPC	Integrated pollution prevention and control
IT	Information technology
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
SMEs	Small and medium-sized enterprises

Finland

FEI	Finnish Environment Institute
MoE	Ministry of the Environment
REC	Regional Environment Centre
VAHTI	Compliance monitoring data system

France

ADEME	Environment and Energy Management Agency
ARIA	Analysis, research and information on accidents online database
CEDRIC	Electronic database of documents related to “classified” installations
CSIC	High Council of Classified Installations
CODERST	Departmental Council of Environment and Sanitary and Technological Risks
DDSV	Departmental Veterinary Service Directorate
DIREN	Regional Environment Directorate
DGPR	Directorate General of Risk Prevention
DRIRE	Regional Directorate for Industry, Research and the Environment
GIDIC	Information management database on classified installations
INERIS	National Institute of Industrial Environment and Risks
SIGAL	Geographical information and environmental analysis system
STIIIC	Technical Service for Inspection of Classified Industrial Installations

Japan

LPCA	Local pollution control agreement
METI	Ministry of Economy, Trade and Industry
MoE	Ministry of the Environment
NERTI	National Environmental Research and Training Institute

Netherlands

ACTAL	Dutch advisory body for administrative burdens
DCMR	Rijnmond Environmental Protection Agency
EMA	Environmental Management Act
LOM	National Environmental Enforcement Cooperation Secretariat
VROM	Ministry of Housing, Spatial Planning and the Environment
WABO	General Provisions for the Environment Act

United Kingdom

CAP	Compliance Assessment Plan
CCS	Compliance Classification Scheme
COMAH	Control of Major Accident Hazards
Defra	Department for Environment, Food and Rural Affairs
DoE	Department of the Environment, Northern Ireland
EPR	Environmental Permitting Regulations
MAC	Methodology for Assessing Compliance
MCERTS	Monitoring Certification Scheme
NEIA	Northern Ireland Environment Agency
OMA	Operator Monitoring Assessment
Opra	Operational risk appraisal
REPAC	Regional Environment Protection Advisory Committee
SEPA	Scottish Environment Protection Agency

United States

ALJ	Administrative law judge
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CWA	Clean Water Act
DOJ	Department of Justice
EAB	Environmental Appeals Board
ECHO	Enforcement and Compliance History Online database
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Environmental Results Program
FBI	Federal Bureau of Investigations
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
NEPA	National Environmental Policy Act
NETI	National Enforcement Training Institute
NPDES	National Pollutant Discharge Elimination System
OECA	Office of Enforcement and Compliance Assurance
OIG	Office of Inspector General

OPA	Oil Pollution Act
OTIS	Online Tracking Information System
RCRA	Resource Conservation and Recovery Act
SDWA	Safe Drinking Water Act
SEP	Supplemental Environmental Project
SIP	State Implementation Plan
TSCA	Toxic Substances Control Act
TSD	Hazardous waste treatment, storage, and disposal (facility)

China

BES	Bureau of Environmental Supervision
CIRC	China Insurance Regulatory Commission
DPS	Discharge Permit System
EPB	Environmental Protection Bureau
EPD	Environmental Protection Division
EPL	Environmental Protection Law
MEP	Ministry of Environmental Protection

Russia

Gosstandart	State Standardisation Agency
MNRE	Ministry of Natural Resources and Ecology
RTN	Federal Service for Environmental, Technological, and Nuclear Supervision (*Rostekhnadzor*)

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Executive Summary

Despite good progress in developing environmental laws and policies, there is growing evidence that OECD countries are generally not on track to achieve some of their key environmental goals. One of the main reasons is the implementation gap that exists between policy objectives and performance. Insufficient compliance with environmental requirements is an important part of this implementation gap.

Assuring compliance with environmental requirements is a difficult challenge for various reasons:

- Compliance with environmental requirements is seldom, if ever, complete;
- Defining an appropriate level of compliance can be challenging;
- Detecting and taking action against non-compliance is complex and resource-intensive; and
- The institutions assuring compliance with environmental requirements need to be sufficiently independent and equipped to resist undue political pressure or corruption.

Designing effective compliance assurance regimes has also been hampered by the relative lack of analysis of the factors that determine the environmental behaviour of firms in relation to environmental requirements, or of the efficiency and effectiveness of alternative compliance assurance instruments. Indeed, environmental compliance assurance has long been subject to relatively little attention compared with the design of environmental policies and their specific tools. This may be linked to the institutional separation that generally exists between policy "developers" and "implementers".

Notwithstanding these difficulties, governments are increasingly challenged to set ambitious compliance assurance objectives, usually in the face of much uncertainty, and to deploy their scarce human and financial resources to achieve those objectives as efficiently as possible. Regulatory reform programmes have reinforced these demands and have emphasised the need to reduce regulatory burdens on industry. The shift away from policies targeting "end-of-pipe" solutions to reducing pollution at source have also affected the way in which environmental enforcement agencies conduct their activities. Internationally, concerns about the competitive advantage that may be conferred on domestic industries by inadequate or inconsistent enforcement have put the spotlight on compliance assurance programmes, as has the need to support developing countries to build their capacities in this area.

This report is the result of a systematic comparative study of environmental compliance assurance systems in eight countries representing different legal, institutional, and cultural settings: six OECD countries (Finland, France, Japan, the Netherlands, the United Kingdom, and the United States) and two non-OECD countries (China and Russia). The objective of the study (undertaken in 2007-2008) was to help governments face up to the challenge of

improving environmental enforcement and compliance through cross-country exchange of experiences.

The study focuses on instruments to ensure compliance with pollution prevention and control regulations, particularly in the industrial sector. It covers the three main aspects of compliance assurance – *compliance promotion, compliance monitoring, and non-compliance response (enforcement)*. It also examines the main features of the institutional frameworks and environmental regulatory requirements that determine how compliance assurance programmes are developed, as well as the ways in which compliance assurance programmes are managed.

The analysis shows that national approaches to environmental compliance assurance are shaped by administrative traditions and cultures, and that important differences exist in the approaches being followed in the countries reviewed (for example, the different emphasis that countries place on non-repressive response to violations as opposed to sanctions). Nevertheless, it is also clear that the examined countries face many common problems, and that they are making significant efforts to enhance the efficiency and effectiveness of their environmental compliance and enforcement regimes. The study highlights some well-established and emerging trends, innovative approaches, and good practices in order to facilitate policy dialogue and further analysis of selected issues.

In particular, the study identifies the following trends in efforts to enhance environmental compliance assurance:

- *Increased focus of strategic planning and performance assessment on environmental outcomes*. Environmental authorities in many countries (*e.g.* the Netherlands, the UK, and the US) have developed performance indicators to assess levels of compliance with regulatory requirements, and reductions of the negative impact on the environment. However, the different data and methodologies used to compile compliance and enforcement indicators make cross-country comparison and international benchmarking difficult.
- *Integration of environmental permitting and compliance monitoring regimes across media*. This trend is most pronounced in the EU countries which have integrated permitting and compliance monitoring for large industry and cross-media general binding rules for smaller facilities. On the other hand, the US and Japan maintain their long-established single-medium regulatory regimes and inspection programmes.
- *Growing importance of compliance promotion, particularly targeted at small and medium-sized enterprises*. This trend is clearly visible in all the countries studied. Compliance promotion can be an efficient approach to achieving compliance, both for businesses that receive information, assistance and incentives, and regulators that thereby save resources on enforcement. In recent years, the focus of compliance promotion has been moving from the traditional emphasis on specific regulations to one on incentives to introduce environmental management systems and pollution prevention, and generally to go beyond compliance.
- *Targeting of compliance monitoring on facilities where potential environmental risks are greatest and/or where operator performance suggests a higher risk of non-compliance*. The targeting approaches vary from defining risk-based categories of installations and respective minimum inspection frequencies (*e.g.* in the US, Finland and France) to formal scoring systems (in the UK and the Netherlands). There is evidence that risk-based targeting results in a higher rate of detection of non-compliance and, therefore, in more effective and efficient compliance assurance programmes.

- *Shifting responsibility for monitoring the environmental impacts of facilities from competent authorities to regulated entities*, with appropriate oversight safeguards. At the same time, the emphasis in the studied countries is increasingly on modernising and simplifying self-monitoring and reporting to reduce costs for businesses and regulators.
- *Making enforcement more proportionate to the extent of non-compliance*. Some countries are making more use of, or are planning to introduce, administrative, rather than criminal, response measures for less severe violations. They are also taking more account of the economic benefits resulting from non-compliance and ability to pay when calculating monetary penalties for firms (as in the US, the UK, and the Netherlands). However, in the more consensus-based compliance cultures of Finland and Japan, where a warning is often enough to restore compliance, sanctions in general (and criminal ones in particular) are extremely rare.
- *Enhancing stakeholder co-operation, transparency and public disclosure of information*. Most of the studied countries (particularly the Netherlands) have been improving interagency co-ordination. The dialogue with the regulated community is expanding through compliance promotion and increasing transparency of permitting and enforcement procedures. More and more countries publicly disclose compliance monitoring information and some, like the US, provide public access to enforcement data.
- *Mobilising opportunities provided by information technology*. Information technology is offering a variety of ways to improve regulatory efficiency and to reduce the administrative burden on the regulated community. Examples include electronic submissions of permit applications and self-monitoring reports, databases of various complexity, and interactive web-based tools.
- *Analysing non-compliance with environmental requirements in order to improve policy design*. Environmental enforcement authorities increasingly take part in the elaboration of new, or the improvement of existing, policies and regulations, to help close the gap between policy development and implementation. For example, in the Netherlands, causes of non-compliance and effectiveness of enforcement are thoroughly studied as part of the policy and legislative design process.

Improving the efficiency of compliance assurance is at the core of most of these trends. Enforcement agencies are responding to the challenge of achieving better environmental results with less financial resources by streamlining the key activities, adopting new and improving the existing instruments, and targeting their activities on higher-risk segments of the regulated community.

While significant progress has been made in recent years in some countries, there is much more that could be done to support the efforts of environmental enforcement agencies to enhance the efficiency and effectiveness of their activities. In particular, there could be merit in examining issues such as:

- The extent to which implementation gaps arise from the choice and design of policy instruments or ineffective compliance assurance.
- Ways in which the analysis of non-compliance could help improve policy design.
- The development of comparable indicators to assess the performance of compliance assurance programmes that could be used for international benchmarking; and
- Methods to assess the minimum human and financial requirements that need to be met in order to achieve given environmental compliance objectives (thereby establishing limits of doing more with less).

Introduction

This report is the result of a comparative study of environmental compliance assurance systems in six OECD countries and two non-OECD countries undertaken in 2007-2008 by the OECD Secretariat. The study contributes to the realisation of the Strategic Vision of the OECD Environmental Policy Committee (2006) which emphasises the importance of "enhancing environmental governance and incentives for compliance with, and enforcement of, environmental policies at national and international levels."

Role of Compliance Assurance in Environmental Management

The design and performance of systems that ensure environmental regulatory compliance is becoming a subject of particular interest in light of society's demand for effective policies that target a high level of environmental protection and are compatible with robust economic growth. Despite good progress achieved in putting such policies in place, OECD countries are generally not on track to reach some of their key environmental objectives.* One of the key reasons for this is the so-called "*implementation gap*", which includes insufficient compliance with environmental requirements. Compliance assurance is also the weakest link in environmental policy implementation in non-OECD countries.

Low compliance may stem from various causes, such as inadequate incentives provided by the regulatory framework, lack or poor design of important compliance assurance tools, and insufficient institutional capacity and resources of enforcement authorities. Environmental compliance assurance programmes address these challenges through a broad array of actions taken by governmental agencies alone or in co-operation with other stakeholders. However, these efforts depend on the quality and integrity of the overall governance system, and on the political priority assigned to environmental issues.

Environmental compliance assurance can bring many benefits and contribute to building good governance in various ways:

- Reinforce credibility, fairness, and the deterrence effect of environmental regulations;
- Strengthen public confidence in the policies and institutions responsible for environmental safety, conservation and more equitable access to natural resources;
- Help maintain the level playing field for businesses by ensuring that no company obtains a competitive advantage from its non-compliance;
- Reduce costs for society, including administrative and compliance costs; and
- Create a predictable investment climate based on the rule of law, thereby stimulating econo-mic development and innovation and enhancing markets for environmental goods and services.

* Implementation of the OECD Environmental Strategy for the First Decade of the 21st Century: 2008 Review of Progress for Ministers, ENV/EPOC(2008)9, OECD.

So far, environmental compliance and enforcement has attracted relatively little attention from national environmental authorities in OECD countries, compared with efforts to optimise the design of environmental policies and their specific tools. This has often led to inadequate consideration of likelihood of compliance and of required enforcement capacities in the development of environmental policy instruments and specific regulatory requirements. Although individual OECD countries have recently undertaken initiatives to develop effective and efficient compliance and enforcement mechanisms, there has been little systematic analysis of the experience gained by environmental agencies with different approaches in different settings.

Objectives of the Study

This study is a first attempt to examine in a systematic way a range of environmental compliance assurance systems. It engaged environmental authorities in six OECD countries – Finland, France, Japan, the Netherlands, the United Kingdom, and the United States – and two major emerging economies – China and Russia – in a comparative analysis of their compliance and enforcement instruments, the ways in which they are applied, and the results achieved. The participating OECD countries represent different legal, institutional, and cultural settings. The inclusion of non-OECD countries in this analysis aims at enhancing the pool of experience, supporting improved environmental compliance globally, and promoting greater international transparency with regard to environmental management.

The study's objectives are:

1. To assist OECD countries in effective and efficient implementation of their environmental policies through policy-relevant analysis and cross-country exchange of data and experiences; and
2. To enhance co-operation between OECD and non-OECD countries in the field of environmental compliance assurance.

The report is intended to provide policy makers, environmental regulators, and other stakeholders with:

- Better understanding of factors that affect the design and performance of compliance assurance strategies and instruments;
- Insights into how scarce environmental enforcement agency resources can be used to achieve the greatest environmental outcome;
- Information on ways in which the cost burden of compliance assurance instruments on the regulated community can be reduced; and
- Greater awareness of measures to increase accountability of enforcement authorities, enhance transparency in their relationship with the regulated community and the public, and improve feedback to policy making.

Scope and Methodology

The study covers the three principal components of a compliance assurance system: compliance promotion, compliance monitoring, and enforcement against violations. In addition, it addresses the main features of the legal and institutional frameworks related to compliance assurance and the ways in which compliance assurance programmes are

managed. The study focuses on *compliance with pollution prevention and control regulations*, particularly in the industrial sector.

The project was conducted in close partnership with environmental authorities in the eight participating countries: the Ministries of the Environment of Finland and Japan, the French Ministry of Sustainable Development, the Ministry of Housing, Spatial Planning and the Environment of the Netherlands, the Environment Agency of England and Wales, the US Environmental Protection Agency, the Chinese Ministry of Environmental Protection, and the Russian Federal Service for Environmental, Technological and Nuclear Supervision.

At the first stage of country-specific studies, each partner agency was invited to complete a questionnaire that covered a wide range of compliance assurance-related issues. The questionnaire responses were complemented by an in-depth literature and Internet research. Country visits were carried out by the OECD Secretariat to interview relevant governmental and non-governmental stakeholders and gain further insights into how compliance assurance strategies have been developed and implemented. This information formed the basis of the cross-country analysis of best practices in each substantive area.

The study also built on the work which had already been done by the OECD Environment Directorate in the context of co-operation with countries in Eastern Europe, Caucasus and Central Asia, as well as in Southeast Asia. In addition, the analysis was significantly enriched by the experience of the International Network on Environmental Enforcement and Compliance (INECE) and the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL), in both of which the OECD has been an active participant in recent years.

Structure of the Report

This report addresses the design, management aspects, and the principal elements of compliance assurance systems. Part I identifies, analyses, and compares best practices observed in the studied countries, sets them in context of respective regulatory cultures, and points to the key trends across the different systems. In particular:

- *Chapter 1* examines different elements affecting the design of compliance assurance programmes, including factors of compliance behaviour of regulated entities, regulatory regimes for different segments of the regulated community, and the institutional framework.
- *Chapter 2* looks at the management aspects of compliance assurance: strategic planning and performance assessment, implications for policy making, optimising the use of enforcement agency resources and reducing administrative costs borne by the regulated community.
- Compliance promotion, including information dissemination, financial incentives, and promotion of corporate environmental management, is the subject of *Chapter 3*.
- *Chapter 4* considers different compliance monitoring tools with a focus on site inspections, targeting of facilities for inspection, and self-monitoring.
- The application of various instruments of non-compliance response – those of administrative, civil judicial and criminal enforcement – is analysed in *Chapter 5*, which also concentrates on the design of non-compliance penalties and citizens' role in enforcement.

- Finally, *Chapter 6* summarises the main trends in environmental compliance assurance and defines the key challenges that need to be addressed in further work on this matter.
- Brief *country profiles* presented in Part II – Chapter 7 through Chapter 14 – describe the environmental compliance systems of each country that participated in the study.

PART I

Cross-country Analysis

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PART I

Chapter 1

Compliance Assurance as Part of the Regulatory Framework

Environmental compliance assurance is the application of all available instruments aimed at influencing the behaviour of regulated entities to comply with regulatory requirements. Its principal functions are to promote voluntary compliance, detect and reverse non-compliance, and, as appropriate, punish the offender.

This chapter considers the main elements of a compliance assurance system and the key factors affecting its design.

1.1. Main Elements of a Compliance Assurance System

Compliance assurance is a crucial element of the iterative, cyclical process of environmental regulation. It links legislative requirements with the assessment of policy implementation and feedback allowing adjustment of the laws and policy instruments. Successful policy implementation depends upon the effectiveness of each element in this regulatory cycle. Given that environmental compliance assurance involves a broad array of government and non-government actors, and is time and resource-intensive, its main challenge is to design an effective and efficient package of tools in support of policy objectives.

The three main categories of instruments of environmental compliance assurance are:

- *Compliance promotion* – any activity that encourages compliance but does not involve sanctions for non-compliance. Examples of compliance promotion include information dissemination, technical assistance, and regulatory and financial incentives.
- *Compliance monitoring* – collecting and analysing information on compliance status. Compliance monitoring may include governmental inspections, audits or investigations, monitoring of ambient environmental quality, self-monitoring and reporting by regulated entities, and citizen monitoring.
- *Enforcement* – a set of actions that the government or third parties take in response to non-compliance with environmental requirements to compel the offender to return to compliance and remediate the damage resulting from the violation, as well as to impose sanctions on the offender.

Effective compliance assurance involves a combination of promotion, monitoring, and enforcement tools which are mutually supportive. For example, compliance promotion helps to target inspections on poorer performers (by improving the performance of regulated entities willing to comply voluntarily), compliance monitoring detects violations which are subject to enforcement, and the dissemination of information about enforcement cases is a good compliance promotion instrument.

The choice of these tools and their interaction, *i.e.* the design of a compliance assurance system is strongly influenced by:

- General as well as local factors affecting regulated entities' compliance behaviour;
- The way environmental requirements are defined for the regulated community; and
- The country's institutional framework supporting policy implementation.

The following sections consider these three aspects, drawing on the variety of models represented by the studied countries.

1.2. Key Factors of Compliance

Knowledge of factors that drive compliance behaviour is crucial for the design and application of compliance assurance instruments. This section briefly reviews the theory of compliance behaviour and considers its policy implications.

Traditional environmental economics theory assumes that regulated entities are rational when making compliance decisions: they decide whether to comply or not based on the balance between expected compliance costs (*i.e.* expenses for technological and management improvements to meet environmental requirements) and non-compliance costs (*i.e.* value of monetary penalties, civil liability, etc.). In other words, if it is "cheaper" to violate a requirement, an operator would do so. Under this theory, competent authorities must raise the "costs" of non-compliance by raising the probability of detection of an offence (via intensive compliance monitoring); making non-compliance response swift, certain, and fair; imposing penalties high enough to outweigh non-compliance benefits; and raising awareness of enforcement actions.

The literature also provides suggestions on why compliance may sometimes be higher than expected with the current levels of monitoring and enforcement by regulatory agencies:[1]

- Firms often subjectively overestimate the expected penalty, and *perceived levels of inspections and sanctions* determine firms' compliance behaviour and explain compliance despite low sanctions.
- Compliance may also be the effect of an expectation of becoming subject to more intensive compliance monitoring and stricter enforcement if previously found non-compliant.
- Regulators may provide direct or indirect *financial incentives*, such as tax breaks, or disincentives (*e.g.* restricted access to credit) to promote compliance (see Section 3.3).
- *Market forces* may influence compliance behaviour via potentially adverse reactions of customers, investors, insurers, or stock-market valuations. Such information could also influence the general public image of the firm concerned, or lead to pressure from local communities.
- *Intrinsic (internal) motivation*, such as honesty or social norms, may also lead to environmentally friendly behaviour and voluntary compliance. This factor may be magnified in co-operative cultures (such as Japan and Finland) with very widely shared communal values where many more people act based on non-economic reasons to avoid non-compliance.

In the Netherlands, the parameters of regulated community's response to regulation were summarised in the so-called "Table of Eleven" (see Box 1.1). It is based on a combination of social and criminal theories of compliance behaviour and on practical experience in the maintenance of law and order.

The understanding of the factors that determine compliance helps governments design more effective regulations and compliance assurance programmes. Regulatory design is optimal when the requirement is simple to implement and produces a maximum level of voluntary compliance, which is reinforced by various compliance promotion

Box 1.1. **The Netherlands Table of Eleven: Definition of Key Factors of Compliance**

Spontaneous compliance dimensions – factors of voluntary compliance and the influence of compliance promotion:

1. Knowledge of rules – familiarity of the regulated community with the regulation and the clarity of requirements.
2. Cost-benefit considerations – advantages and disadvantages of compliance in terms of time, money, and effort.
3. Level of acceptance – the extent to which policy and regulations are (generally) accepted by regulated entities.
4. Loyalty and obedience – innate willingness of regulated entities to comply with laws and regulations.
5. Informal monitoring – possibility of detection and disapproval of non-compliance by non-government actors.

Monitoring dimensions – the influence of compliance monitoring:

6. Informal report probability – possibility that an offence is reported by non-government actors (whistle blowing).
7. Monitoring probability – likelihood of being subject to inspection by competent authorities.
8. Detection probability – possibility of detection of an offence by competent authorities.
9. Selectivity – chance of inspection as a result of risk-based targeting of firms, persons, or areas.

Sanctions dimensions – the influence of enforcement.

10. Sanction probability – possibility of a sanction being imposed if an offence has been detected.
11. Sanction severity – stringency and type of a sanction and adverse effects associated with it.

Source: Van der Schraaf (2005).

activities. If an analysis of compliance factors shows that spontaneous compliance is insufficient, then either compliance monitoring and enforcement have to be strengthened, or the regulatory regime redesigned, in order to achieve the desired level of compliance.

1.3. Setting the Requirements

In the context of the overall regulatory system, facility-specific permits and statutory norms of direct application to operators translate environmental policies into enforceable conditions. Since it is the conformance to those conditions that environmental compliance assurance is all about, how they are set has a major impact on the performance of the entire system. If properly designed and set in a transparent manner, these conditions provide incentives for the regulated community to protect the environment in an effective and cost-efficient way, and ensure that private and public interests are equally respected. Compliance promotion, monitoring, and even enforcement tools are usually designed in line with the systems of setting environmental requirements.

Differentiation of regulatory regimes between larger and smaller pollution sources

Regulatory programmes are designed based on the identification and understanding of different segments of the regulated community, and on their ability and willingness to comply with environmental requirements. A differentiated approach to setting these requirements enables competent authorities to tailor their use of compliance assurance instruments, to prioritise inspections, and to focus compliance promotion and enforcement efforts.

In most of the studied countries, regulatory regimes of different complexity apply to pollution sources depending on their size and potential environmental impact, while specific boundaries between those regimes vary greatly from country to country. The two principal regimes are facility-specific permitting and general binding rules (GBRs). GBRs are standard conditions stipulated in a statutory document covering certain categories of installations or activities. While customised permitting is usually associated with a complex procedure, GBRs are implemented through a much simpler process (*e.g.* notification).

Facilities with intrinsically low environmental impact are usually not regulated by environmental authorities. They may be subject to local rules (including notification provisions) defined by municipalities (as in France and Finland) or must conform to general legal requirements to use best practicable means to prevent environmental nuisances (*e.g.* "duty of care" principles in the UK).

In some of the countries, the regulatory differentiation is well established. For example, in France, there are two main regulatory regimes for "classified" (central government-regulated) installations: those requiring a permit (*autorisation*) and those that must submit a *declaration* before starting operation and comply with applicable GBRs. Only about 10% of regulated installations in France and 11% in the Netherlands are subject to facility-specific permitting. The permitting framework covers only around 2% of registered businesses in the UK. In other countries (the US, Finland, and Russia), facility-specific permitting is predominant, while in Japan, on the contrary, emission and effluent standards (which could be regarded as GBRs) are applied directly, without a permitting procedure.

The following principal criteria are commonly applied when the use of GBRs is considered for a segment of the regulated community:

- GBRs must cover a sufficiently large number of regulated entities in a particular category to make this regulatory regime effective;
- The state of technology and techniques in that category of installations must not be fast moving, as GBRs cannot be updated frequently; and
- The installations must have a similar, and individually relatively minor, environmental impact.

Some diversification of requirements and procedures is also underway *within* the permitting systems in several countries. Finland is planning to replace customised permits, now covering almost the entire regulated community, with GBRs for gas stations, small power plants, and several other categories of small installations regulated by municipal authorities. In the future, it is envisaged to cover 10-15% of all Finland's permitted installations by general binding rules. In France, the present level of diversification of permitting for different types of installations is also considered insufficient by the regulators and inspection services. The Ministry of Sustainable Development has drafted a law (awaiting parliamentary consideration at the time of the writing) that would create an intermediate permitting

regime for certain categories of installations (not subject to EU requirements) envisaging a simpler application, general activity-based requirements, and reduced stakeholder and public consultation.

Bringing in GBRs in place of facility-specific permitting has benefits as well as limitations. It must be clear that the change would not result in reduced environmental effectiveness, particularly with respect to local sensitive environments, or undermine public participation. For example, there is much bigger support for this measure in the Netherlands, where the benefits are emphasised, than in Finland, where concerns about public participation in the permitting process are very strong.

Medium-specific and integrated permitting

Among the studied countries, *two principal models of facility-specific permitting are clearly distinguished*: medium-specific regulation (for air emissions, wastewater discharges, and waste management) in the US, Japan, Russia and China *versus* integrated, cross-media permitting in the four EU member states.

Single-medium permitting usually derives from the way that environmental regulation developed as specific environmental problems (for air, water protection, waste management, etc.) needed to be addressed. In this form of permitting, the limits for facilities' environmental impacts are set to protect the affected environmental medium to a defined level. As a result, an operator of an industrial installation may be required to obtain several environmental permits or licences from different authorities. Integrated permitting means that emissions to air, water (including discharges to sewer) and land, as well as a range of other environmental effects (the use of energy, water and raw materials) must all be considered together. It also means that regulators must set permit conditions so as to achieve a high level of protection for the environment overall.

The difference in the regulatory approach between the two groups of countries is largely historic. All the European countries participating in this study had developed integrated permitting at least for large industry even prior to the 1996 adoption of the Integrated Pollution Prevention and Control (IPPC) Directive 96/61/EC (recently updated by Directive 2008/1/EC) which mandated this system EU-wide. The US and Japan, on the other hand, developed strong medium-specific regulatory programmes in the 1970s and 1980s and maintained them over the years.[2] Russia and, to a lesser degree, China originally developed their permitting systems by environmental medium, but are now considering at least procedural integration of the different regimes.

The cross-media permitting systems in the EU member countries have different coverage of environmental aspects and segments of the regulated community. The integration of environmental permitting systems is a continuing trend in many European countries, including the Netherlands and the UK. In these countries, different regulatory regimes are being brought into a common framework to achieve the overall goal of simpler, more efficient regulation (see Box 1.2).

In terms of environmental compliance assurance, the difference between single-media and integrated permitting has a significant impact on the mode of compliance monitoring (discussed in more detail in Chapter 4).

Box 1.2. **Integration of Environmental Permitting Regimes in the Netherlands and the UK**

The Netherlands

Environmental and water permitting in the Netherlands remains separate because of the historic independence of Water Boards – competent authorities for water resources management. Operators must apply for environmental, water, and building licences in parallel, and if either one of them is not granted, the other two are also refused.

The General Provisions for the Environment Act, expected to come into force on 1 January 2010, will introduce major changes into the permitting system. It will create a "land use and development" permit by integrating about 25 existing licences and permits, including the environmental licence and the building permit. The land use and development permit will be issued by the provincial or municipal governments. However, the wastewater discharge licence will only be included in the permitting process but will not be formally integrated in the new permit (it will remain in the competence of the Water Boards).

The United Kingdom

The Department for Environment, Food and Rural Affairs (Defra) and the Welsh Assembly Government, with the Environment Agency of England and Wales and other stakeholders, have launched a programme to modernise environmental permitting. The Environmental Permitting Regulations which went into force in April 2008 brought together integrated permits for large industrial installations and waste management licences under a single environmental permit regime (in the future, the integration into this regime of wastewater discharge consents and abstraction licences is also planned). This will integrate the permitting procedure but will not affect the substantive basis of permitting (*e.g.* wastewater discharges would still be regulated based on ambient water quality standards). In Scotland and Northern Ireland, such integration is not currently envisaged.

Source: VROM and the Environment Agency, 2008.

Environmental agreements as a regulatory tool

The Netherlands and Japan are using an additional tool to make the regulated community accountable for achieving pre-established targets – negotiated environmental agreements. Such agreements, concluded at the national level in the Netherlands and at the local level in Japan, are a means to build *consensus* between regulatory authorities and represent an important feature of compliance assurance systems in both countries.

In the Netherlands, these negotiated agreements are often referred to as *covenants*. Since 1992, Target Group Environmental Agreements designed to reduce pollutant emissions have been concluded with all major industry sectors. Participation by firms is very high (*e.g.* 91% in the chemical industry). Covenants may consist of a declaration of intent signed by the government and each industry sector or an agreement between the government and individual firms. The targets of sector covenants are subsequently translated into permit requirements for individual installations. The system involves high levels of participation because the vast majority of companies belong to trade associations representing their sectors in covenant negotiations. If a company fails to adhere to agreements made at the industry sector level, the government can make the terms of its environmental licence more stringent. Limits on pollution releases set in industrial sector covenants have lost their importance with the introduction of emission limit values for individual installations required by the IPPC Directive.

Japan's *Local Pollution Control Agreements* (LPCAs) are directly negotiated between local governments and individual operators and allow case-by-case determination of emission limits, best available techniques, and self-monitoring and reporting arrangements adapted to local circumstances. They typically focus on problem-specific environmental media and/or groups of pollutants. Since the 1970s, more than 40 000 facilities in manufacturing industry as well as in the service sector have negotiated agreements with a prefecture or a municipality. Many negotiated agreements also mandate emergency response plans and set liability rules in the case of environmental accidents. Industry's compliance with negotiated agreements is very high even though they are usually not legally binding: local governments commonly link positive decisions on notifications and waste management licences with the signature of such agreements.

The negotiated environmental agreements are often regarded as "voluntary". However, only the decision to enter into an agreement is voluntary, while the agreed targets are either legally binding for the industries concerned, as in the Netherlands, or "morally" binding, which is no less important in Japan's compliance culture. As regulated entities commit to working toward ambitious but "customised" environmental goals, the government usually agrees either to limit its compliance monitoring interference or not to introduce new requirements before companies have had an appropriate length of time to comply with the agreed ones. This makes negotiated agreements not only a regulatory tool but also an instrument of compliance promotion.[3]

1.4. Institutional Frameworks for Compliance Assurance

The reviewed countries represent a wide variety of institutional models supporting environmental compliance assurance programmes. The particularity of each has its historic, political and cultural reasons. Regarding environmental enforcement authorities as the core of compliance assurance systems, this section looks at the degree of decentralisation of their powers, engagement with other stakeholders having compliance-related competencies, the internal organisation of the key functions, and the transparency of the authorities' principal activities. However, it does not attempt to describe each country's specific institutional setup, which is outlined in more detail in the country profiles in Part II.

Vertical division of responsibilities and the balance of powers

A basic institutional issue for compliance assurance is to decide to what extent to centralise responsibilities for enforcement at the national level or decentralise them to the sub-national and local levels. The degree of decentralisation is often largely determined by existing institutional structures and traditions, which in turn are based on constitutional arrangements.

There are advantages and disadvantages to both centralisation and decentralisation. A national presence in compliance assurance aims to ensure that at least minimum environ-men-tal standards and requirements are met; that the system is consistent and fair throughout the country; and that national resources are available to support compliance assurance efforts. Involve-ment of sub-national authorities is important because they are closest to the actual environmental problems and are well-placed to efficiently identify and correct them. Great geographic dispersion of regulated facilities provides another strong argument in favour of decentralisation. At the same time, where local governments are responsible for environmental regulation and implementation, there is a risk of political

interference in favour of local economic development at the expense of environmental requirements and their enforcement.

The following models of vertical organisation, in the order of increasing decentralisation, are represented by the studied countries:

- The national enforcement agency is integral to the environment ministry and operates through its regional offices. The regional enforcement staff are employees of the central government, and local governments have no enforcement responsibilities. This is the case in France.
- The relatively autonomous national enforcement agency has regional branches that are entirely part of its struc-ture, but some enforcement functions are performed by local authorities. This model is exemplified by the UK with respect to each of its "Devolved Administrations" (England and Wales, Scotland, and Northern Ireland), even though there is no "national" environmental authority as such.
- Both the national and sub-national government agencies carry out compliance assurance activities with respect to national and sub-national requirements, but the role of the central government is strong. This is the case in the US and Russia, both federal countries, as well as in China (where Environmental Protection Boards are subordinated to both the central environment ministry and provincial or local governments).
- Most compliance and enforcement functions reside at the sub-national and local levels, while the environment ministry is responsible for guidance, co-ordination, and oversight. This model is represented by the Netherlands (where the Ministry has enforcement functions in several strategic areas), Japan, and Finland.

Decentralisation may mean delegation of responsibilities for the implementation of national legislation and/or compliance and enforcement with respect to sub-national and local regulations. In the US, for example, states enforce both federal and state laws and conduct over 80% of all enforcement actions. Many of the US federal environmental statutes establish federal-state regulatory programmes in which states are given the opportunity to enforce laws if they meet minimum federal criteria.[4] In the Netherlands, on the other hand, the twelve provincial governments and over 400 municipalities enforce almost exclusively national laws, but the areas of jurisdiction are clearly defined. Furthermore, decentralisation of compliance assurance functions under national laws may be based on the implementation of national policies and guidelines or sub-national and local authorities may have the freedom to develop their own. Examples of the latter include the Netherlands, Japan, and Finland.

The role of municipalities deserves special mention. Local governments have significant permitting, compliance monitoring, and enforcement responsibilities under national laws in the UK, the Netherlands, Finland, Japan (only large ones), China, and Russia (in selected cities). In the US, local (county or municipal) governments can enforce local ordinances through civil action in state courts.

Roughly a third of Dutch municipal authorities have established 26 *shared service centres* executing permitting and compliance assurance responsibilities on their behalf, thereby significantly improving the efficiency and effectiveness of their environmental activities.[5] The most prominent case of such co-operation is the Rijnmond Environmental Protection Agency (DCMR) in the larger port of Rotterdam area in the Province of South Holland, which is the largest regional environmental agency in Europe with about 550 staff, including 95 inspectors.

Enforcement disagreements between competent authorities at different administrative levels are not unusual. The national government may see a state or a province as protecting favoured local polluting industries and damaging the goal of national consistency. On the other hand, a sub-national government or a municipality may see the national environmental enforcement agency as heavy-handed, too repressive, and not respectful of the local goal of tailored and flexible response.

In some of the studied countries, there are administrative procedures to resolve such differences. For instance, in Japan, when national and local governments have conflicting opinions and cannot find a solution through administrative processes, it is possible to use independent dispute resolution processes. The Central and Local Government Dispute Management Council provides recommendations in the case of disputes between the national and a local government, and the Commissioner for Local Dispute Management does the same regarding the involvement of prefectural governments in municipal matters.

Horizontal division of responsibilities and stakeholder co-operation

In addition to environmental agencies, other executive agencies may have authority in areas that affect or will be affected by environmental policy implementation. These include:

- Health-related agencies responsible for food safety, occupational health and safety, consumer products, pesticide use, etc.;
- Natural resource management agencies responsible for water, energy, minerals, forests, etc.:
- Land-use planning agencies, agencies that regulate agriculture, industry and commerce;
- Criminal investigation and law enforcement agencies; and
- Customs.

The most obvious example of stakeholder co-ordination among the reviewed countries is the Netherlands, where about 500 authorities (including special Water Boards) have competencies in environmental enforcement. In order to facilitate co-ordination between them, the National Environmental Enforcement Cooperation Secretariat, a small independent body, was established by the environment ministry (VROM), the Association of Provincial Authorities, the Association of Netherlands Municipalities, and several other key stakeholders (*e.g.* the Ministries of Justice, Water Management, and Nature and Landscape). Memoranda of understanding between different authorities is an often used means of co-ordination. In addition, there are "focal points" to co-ordinate enforcement actions at the provincial level.

There are also other institutional counterparts of environmental enforcement authorities:

- Courts are key to civil judicial and criminal enforcement actions (see Sections 5.3 and 5.4) and sometimes to enforcing administrative orders. Courts can also play a significant role in assessing sanctions.
- Industry or trade associations are very important players in compliance promotion. They serve as valuable channels for disseminating information on requirements, methods of complying, and compliance activities (see Section 3.1).
- Citizens' environmental organisations and public interest groups play a major role in shaping and implementing environmental enforcement. These groups may collect and publicise data on environmental quality and compliance levels to influence enforcement

priorities and, if the law allows, file citizen suits against the environmental agency for not doing its job (see Section 5.6).

Division of responsibilities within enforcement authorities

There are several aspects of the division of functions inside environmental enforcement authorities, including those between the headquarters and regional offices and between the permitting and compliance monitoring responsibilities.

In countries where the principal environmental enforcement authority has regional offices with compliance assurance responsibilities (in France, the Netherlands, the US, the UK, and Russia), the headquarters is usually in charge of producing more detailed policies and guidance, while the regional offices are responsible for operational implementation. The challenge of such institutional setup is in *achieving the same vision of compliance assurance between the headquarters and the field offices*. This issue is reflected in the consistency of enforcement actions by different offices of the same agency (see Section 5.2).

With respect to the *separation between the permitting and inspection functions*, competent authorities in the studied countries adhere to two different approaches. The predominant view is that, to avoid conflict of interest, the same inspector should not be involved in setting requirements and checking compliance with them at a same installation. In some of the countries (in the US, Russia, England and Wales, the Netherlands, and in some Environmental Protection Boards in China), permitting specialists and inspection staff operate in different units. In Finland and Scotland, permitting and inspection staff are usually part of the same unit. The same person may even do both permitting and inspection, but the two functions are never combined for the same installation. In France, Japan, and Northern Ireland, individual inspectors carry out all regulatory functions, including permitting, inspection and enforcement. However, to prevent potential "issue blindness" and corruption, inspector staff are regularly rotated between sites for which they are responsible (*e.g.* at least every six years in France).

Transparency of compliance assurance activities

Transparency and accountability can be important forces in shaping compliance assurance programme strategies and priorities, as well as delivering valuable information on policy implementation to political decision-makers. In all of the reviewed countries, there is a trend toward greater transparency via stakeholder co-operation and public disclosure of information of enforcement agencies' activities. The main aspects of this growing openness include transparency of the permitting process, disclosure of compliance monitoring and enforcement information, and performance accountability of the agencies themselves.

While most of the countries have established procedures for public participation in environmental permitting, the practices are more diverse with respect to disclosure of compliance monitoring records. The US EPA discloses all enforcement and compliance records via its Enforcement and Compliance History Online (ECHO) database, which has a significant compliance promotion effect (see Section 3.4). In England, compliance assessment findings are generally available to the public via access to inspection report forms and the Environment Agency's electronic data systems. In France, Finland, the Netherlands, and Japan, inspection reports are generally available upon request, and the increasing number of local enforcement authorities put them on the Internet. In China (with a few exceptions) and Russia, inspection reports are considered confidential.

Except in the US, the information on enforcement actions is commonly not actively disclosed to the public. For example, the UK National Enforcement Database which contains details of formal enforcement actions is not publicly available due to data protection concerns, but information is provided in response to enquiries made under the Environmental Information Regulations. Similar general freedom of information legislation exists in other countries, but the procedure to get this information can be very time-consuming.

Environmental agencies in all the countries publish annual reports and press releases but very few publish results of internal performance assessments. The US EPA is an exception: it publishes reports of internal audits of particular elements of the Agency's programmes, including compliance assurance, conducted by its Office of Inspector General. Results of environmental authorities' internal audit reports are occasionally made available online in Russia. Other studied countries do not open the respective reports to the public. The issue of accountability and performance assessment of environmental enforcement authorities is addressed in more detail in Section 2.3.

Notes

1. Background Paper, "Economic Aspects of Environmental Compliance Assurance", OECD (2005).
2. However, in the US there have been incremental initiatives undertaken by the EPA and states (*e.g.* Massachusetts and New Jersey) to make permits less prescriptive and more performance based and to increase the consistency of the permitting procedures across the medium-specific regulatory programmes.
3. See "Voluntary Approaches for Environmental Policy" (OECD, 2003) for further analysis of negotiated environmental agreements.
4. If a state fails to take an enforcement action under a delegated programme, does not obtain acceptable results, or requests assistance, the federal EPA may get involved. The EPA may also act to improve national consistency or address a national priority.
5. Some "service centres" only provide information support to the municipalities but have no regulatory functions.

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PART I

Chapter 2

Management Aspects of Compliance Assurance

This chapter addresses a range of cross-cutting management aspects of environmental compliance assurance programmes, including funding, strategic planning, performance assessment, and the reduction of administrative complexity and costs. These management aspects reflect the design of a compliance assurance system and, to a large extent, shape the development of individual instruments of compliance promotion, monitoring, and enforcement.

The management elements of a compliance assurance system are also closely interlinked. Financial resource limitations, as well as political and public pressure to achieve more tangible environmental results, are major factors in strategic planning of compliance and enforcement programmes and their growing emphasis on performance assessment. Achieving better results with less resources implies both better targeting and organisation of regulatory interventions and reducing "red tape" for the regulated community.

2.1. Financial Resources

Environmental agencies in all the reviewed countries face *growing responsibilities but declining public funding*. This trend is more explicit in some countries than in others, but the pressure to "do more with less" imposes on compliance assurance programmes the need to improve internal efficiencies and to reduce administrative costs. For example, the Environment Agency of England and Wales has a 2% year efficiency savings target (the Scottish EPA has a similar 3% target). The Agency assesses the cost-efficiency of using its resources as part of the overall performance measurement and interprets a range of indicators from the cost-efficiency perspective.

Budget needs of environmental enforcement authorities are usually determined as a function of the number of regulated installations. This is the basic principle of the Dutch national guidelines to calculate the necessary human resource capacity for competent authorities. In France, the database of permitted installations is used, among others, to determine budget allocations to individual DRIREs.

While general budgets continue to provide the lion's share of the funding of environmental authorities in most studied countries, some agencies have to recover at least part of their operational costs via administrative fees imposed on operators of regulated installations.[1] The Environment Agency in the UK recovers all permitting and compliance monitoring costs (but without additional revenue): from staff salary costs through to support service expenses.

For most US states, permit fees constitute the largest component of the state environmental agencies' budgets (this is not the case for the federally funded EPA). For instance, in Illinois, the state EPA had to raise the permit fee rates by more than an order of magnitude to compensate for the loss of state budget appropriations. In Finland, permit processing fees account for about 20% of the total funding for the state administration's

environmental compliance assurance activities and can be used by the Permitting Offices and Regional Environmental Centres at their discretion (*e.g.* to hire additional staff).

Like in the UK, the fees in the US and Finland (as well as in Japan) are based on the regulator's labour costs defined for different categories of permitted activities (based on their size and complexity). On the other hand, there is no attempt in France to match the fees (*e.g.* the General Tax on Polluting Activities) to the costs of regulation.

Task-specific budget distribution (for compliance promotion, enforcement, etc.) is practised only in a few countries, including the UK, the US and Russia. This allocation increases the transparency of the budget process as well as the efficiency of resource use. It also reflects the agency's strategic priorities.

2.2. Strategic Planning

Strategic planning for compliance assurance can be structured around two tracks:

- *Problem-oriented strategies* start with an analysis of an environmental problem and determine the mix of interventions based on specific environmental goals to be achieved.
- *Task-oriented strategies* start with regulatory requirements that need to be enforced and determine appropriate interventions based on the knowledge of the rate of non-compliance and the reasons for it.

Most of the studied countries use problem-oriented strategic planning and define enforcement priorities at the national, sub-national, and even local levels. For example, in the Netherlands, general national enforcement priorities are set by the National Environmental Enforcement Cooperation Secretariat. At the provincial level, priorities are established in a four-year Provincial Environmental Management Plan, reflecting those of the National Environmental Management Plan and adding specific issues on the basis of evidence of non-compliance issues in the province. Some municipalities also have specific priorities (*e.g.* noise or waste management).

Task-oriented strategies have been recognised by environmental agencies as an important management tool relatively recently, and are now actively used in France, the Netherlands, the UK, and the US. Increased coherence, efficiency and transparency of compliance assurance and better definition of inspectors' responsibilities are the main objectives of the "Modernisation Programme" of the French environmental inspection services and underpin similar strategies in the other three mentioned countries.

Symbolising the similarity with business planning, the Environment Agency in the UK now has a *corporate* five-year strategy build around the concepts of a "greener business world" and of "modern regulation". Both concepts emphasise effectiveness and efficiency of environmental regulation through risk-based targeting, good customer service, and reduction in red tape (the latter being an explicit government target). In particular, modern environmental regulation is interpreted as:

- Achieving the best environmental results;
- Using risk assessment to identify and address the highest risks to the environment;
- Clearly communicating the Agency's actions; and
- Being consistent over time and across all business sectors.[2]

The quality management systems logic is also clearly visible in the "minimum criteria" adopted for their activities by all the Dutch inspectorates at the national,

provincial and local levels. The four groups of items, from targets to strategy, to implementation and, finally, evaluation (see Table 2.1) reflect the well-known Plan-Do-Check-Act scheme of the "Deming Cycle".

Table 2.1. **Strategic Planning of an Environmental Enforcement Process in the Netherlands**

Targets and Conditions: – Problem analysis – Priority seting and measurable targets – Guaranteeing human and financial resources for the execution of the tasks – Organisational conditions	**Strategy and Working Methods:** – Compliance strategy, *including:* ● Inspection strategy ● Sanctions strategy ● Condoning strategy – Internal and external tuning (co-operation) – Protocols and working instructions – Protocols for communication, information management, control and exchange
Evaluation: – Quality assurance – Performance monitoring – Accountability of efforts, performance and results – Benchmarking and auditing	**Implementation and Operation:** – Inspection and enforcement programmes – Size of inspection and enforcement capacity – Quality of inspection and enforcement capacity – Facilities supporting execution

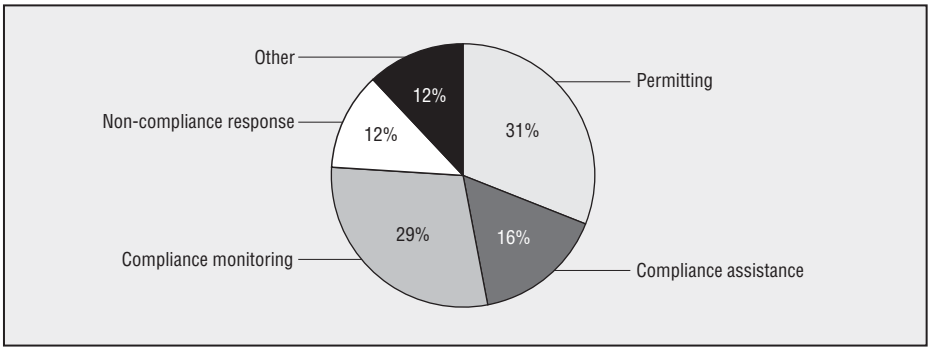
Source: VROM (2002), Minimum Quality Standards for Environmental Inspectorates in the Netherlands.

The US EPA's five-year Strategic Plan (2006-2011) demonstrates, in its Objective 5.1 "Achieve environmental protection through improved compliance", the integration of the use of different compliance assurance instruments to address problem-oriented national priorities. It sets specific targets for each category of tools with respective baselines, for example:

- Compliance assistance: 50% of the regulated entities receiving direct assistance improve environmental management practices;
- Compliance incentives: a 5% increase in the number of facilities that use EPA incentive policies;
- Compliance monitoring: a 5% increase in the number of facilities taking corrective actions during EPA inspections and evaluations after deficiencies have been identified; and
- Enforcement: a 5% increase in the percentage of enforcement actions requiring improvement of environmental management practices.

Strategic priorities in compliance assurance programmes are also reflected in the budget allocation for their specific elements. The difference of approaches to compliance assurance can be clearly seen in comparing, for example, the UK and Russia. The Environment Agency of England and Wales spends roughly a third of its regulatory budget on setting installation-specific requirements (permitting), 16% on compliance assistance, and 41% on compliance assessment and non-compliance response (Figure 2.1). In contrast, about 80% of the budget of Russia's Federal Service for Environmental, Technological, and Nuclear Supervision (RTN) is allocated to compliance monitoring and enforcement activities, permitting accounts for less than 5%, and no funding is available for compliance assistance.

Figure 2.1. **Environment Agency (England and Wales) Budget Allocation for Regulatory Tasks, 2006**



Source: Environment Agency (2007).

2.3. Performance Assessment of Enforcement Authorities

Periodic programme evaluations, based on data concerning programme activities and results, serve many purposes:

- *Assessing progress:* Evaluation helps programme managers determine whether the strategies they use to achieve compliance are working. Results of evaluations are used as a basis for identifying problem areas and making changes to improve effectiveness;
- *Creating deterrence:* Periodic reporting of programme activities and successes to the regulated community contributes to deterrence by raising awareness that there is a good chance violations will be identified and responded to;
- *Internal accountability:* Periodic evaluations of performance provide a basis for establishing a system to hold inspectors accountable for the implementation and effectiveness of the programme; and
- *External accountability:* Programme evaluation provides the basis for transparency and accountability*vis-à-vis* policy makers, other stakeholders, and the public (see Section 1.4).

The appreciation of the value of performance assessment has led environmental enforcement authorities in several countries to adopt formal quality management systems. Many DRIREs in France, as well as most provinces and some municipalities in the Netherlands, have been certified to the ISO 9 001 quality management standard[3] with elaborate sets of targets and performance indicators and conduct regular self-audits. Furthermore, the Dutch Association of Municipalities is currently developing a benchmarking scheme (with voluntary participation) to compare performance of individual municipalities in environmental compliance assurance.

It is possible to evaluate the performance of environmental enforcement authorities by reference to several indicator categories:

1. *Impacts or outcomes:* ultimate environmental results of the programme implementation;
2. *Behavioural outcomes (or intermediary outcomes):* compliance rates or other outcomes such as adoption of best practices and voluntary "beyond compliance" activities;
3. *Outputs (agency activities):* enforcement actions, inspections (number, nature, findings), compliance promotion activities, etc.; and
4. *Inputs:* the use of agency resources.

Traditionally, regulatory agencies' performance and cost-effectiveness have been managed and evaluated largely by reference to their level of activity (outputs), rather than the outcomes they accomplish. For example, the Directorate General of Risk Prevention of the French Ministry of Sustainable Development tracks the effectiveness of using the inspection services' resources via a number of performance indicators, including:

- Average number of site visits per inspector;
- Average number of prefect's orders per inspector;
- Number of compliance notices per site visit;
- Percentage of permits issued within one year;
- Percentage of complaints acknowledged in writing within 15 days following their receipt, etc.

Similar indicators are used, although not exclusively, in most other countries. It is worth noting, however, that many activity (output) indicators have evolved to reflect the efficiency of the agency's interaction with the regulated community and the public. In the Environment Agency of England and Wales, these indicators are referred to as "*standards of service*" and concern the length of the permitting process, response to complaints, timeliness of enforcement actions, etc.

In recent years, enforcement agencies have started to recognise that relying on input and output indicators alone does not account for qualitative differences in the effectiveness of various enforcement activities. They have recently developed outcome measures characterising improvements in environmental conditions or behaviour of the regulated community to enable policy makers and the public to see the actual impact of their programmes. This trend is part of the more general tendency to focus compliance assurance on environmental outcomes.

The Environment Agency has introduced a scorecard' approach covering criteria divided into four categories: outcomes, processes, partners, and resources. There is an individual scorecard for each department and a corporate one for the entire Agency, which is reported quarterly to the government. With progress on each measure colour-coded as green, amber or red, the Agency wants to achieve at least 80% of measures rated green in any reporting period. Table 2.2 presents examples of different performance measures relevant to compliance assurance. Behind each measure, there is a host of indicators that are regularly tracked by the Environment Agency.

The US EPA also has a number of indicators that focus on the outcomes of programme activities, including, among others:

- Mass (pounds) of pollutants reduced or treated as a result of enforcement actions and as a result of compliance incentive programmes;[4]
- Volume of contaminated soil and wastewater cleaned;
- Area of wetlands protected;
- Dollar value of pollution control projects required by enforcement actions;
- Percentage of regulated entities taking complying actions as a result of on-site compliance inspections and evaluations;
- Number of entities seeking compliance assistance; and

Table 2.2. **The Environment Agency's Performance Reporting Measures for Compliance Assurance**

Category	Measure	Frequency of Assessment
Outcomes	Emission of priority pollutants are going down.	Annual
	The quality of rivers is getting better.	Annual
	There are fewer serious and significant pollution incidents.	Quarterly
	We identify and reduce illegal waste sites.	Quarterly
	We reduce Global Warming Potential emissions.	Annual
Processes	Our policies and processes are adapted to take account of climate change.	Semi-annual
	Our policies and procedures meet quality criteria.	Quarterly
	More businesses comply with permit conditions.	Quarterly
Partners	We have reduced the administrative burden that we place on business.	Annual
	We reduce the number of businesses with higher risk Opra scores.	Annual
	More companies we regulate have EMS.	Annual
	We successfully influence key audiences around priority issues.	Annual
	Key stakeholders agree that we are good at working with them on shared goals.	Annual
	We deliver permits more quickly.	Quarterly
	We are successful in taking action against those who damage the environment.	Quarterly
Resources, Learning and Growth	We reduce our environmental footprint.	Quarterly
	We achieve the right balance of resources.	Monthly
	We have secured the funding necessary to deliver our objectives.	Monthly
	Our expenditure is in accordance with our plans.	Monthly
	We are more efficient.	Quarterly

Source: Environment Agency (England and Wales) (December 2006), Corporate Scorecard.

- Percentage of regulated entities receiving EPA compliance assistance that, as a result of such assistance, reduced or treated pollution or improved environmental management practices.

The Dutch VROM Inspectorate has developed (and used since 2006) a comprehensive compliance indicator monitoring system to assess the performance of compliance assurance activities (outlined in Table 2.3), which closely follows the input-output-outcome scheme.

Table 2.3. **Indicators of Compliance Assurance Activities in the Netherlands**

Inputs: – Number of compliance promotion officers (policy makers) – Number of compliance enforcement officers – Investment in training – Days planned for compliance promotion and enforcement	Intermediate outcomes: – Compliance rates – Risk rates
Outputs: – Number of compliance promotion campaigns – Number of inspections – Number of prosecutions – Number of penalties – Days realised for compliance promotion and enforcement	Final outcomes: – Load of air and water pollutants (reported in the Pollution Release and Transfer Register) – Environmental impacts (reported in the annual State of the Environment and State of Nature reports)

Source: Van der Schraaf (2005).

The shift from exclusively output-based to outcome-oriented performance assessment can also be observed in Russia, where RTN has recently designed composite indices for non-compliance (a ratio between the number of accidents and violations and the number of regulated entities) and effectiveness of compliance assurance (a ratio of the intensity of compliance monitoring and the rate of non-compliance). Since 2004, performance indicators in Russia have become part of budget justification of each public authority, alongside the description of strategic goals, responsibilities and functions.

A compliance rate seems to be a key indicator to describe the impact of compliance assurance activities. However, competent authorities that calculate compliance rates do it differently. Some US states (*e.g.* Connecticut, Pennsylvania) define compliance rates as the number of facilities that are in compliance in the full universe of regulated facilities. DCMR in the Netherlands calculates a non-compliance index as a number of violations of core licence conditions over a number of installations monitored.

This indicator's reliability is dependent on the use of sampling approaches to develop representative, statistically valid compliance rates based on random inspections and/or accuracy of self-reported data. Because most inspections are not conducted randomly but are targeted to make best use of limited governmental resources, they tend to find more non-compliance. This apparent lower compliance rate may mean that the agency is doing a good job of detecting violations, that the programme is using stringent standards for compliance, and/or that the regulatory requirements are stringent. An apparent high compliance rate can be misleading if the most significant pollution sources remain out of compliance or if the sources fail to stay in compliance. There are also problems with determining a compliance rate for facilities that have not been inspected in a particular year (either undetected non-compliance or unappreciated compliance), treating compliance at facilities with different scales of environmental impact, choosing a time period to determine the compliance rate, etc. Many of the most serious violations cannot be counted, usually because they are either not committed at facilities or are intentionally clandestine (*e.g.* waste dumping). All these realities limit the use of compliance rates as a truly meaningful indicator.

Compliance rates are not the only indicator causing problems with interpretation. Despite the abundance of indicators, they are extremely difficult to compare between the studied countries. This is mostly due to the differences in definitions of basic terms (*e.g.* an "installation" means a technical unit in France but a permitted entity in the UK) and specific compliance and enforcement instruments (such as inspection, compliance notice, administrative order, etc.). In addition, the countries have vastly different lists of indicators, historically developed within their regulatory programmes, further complicating the comparison.

The need to improve performance data management is also one of main concerns of environmental agency officials in several countries. In the US, there are substantial differences between enforcement and compliance data maintained in state information systems, compared to that same data sent to EPA national compliance data systems. The reasons for these include differing interpretation of EPA guidance on use of various data systems, differences between EPA and state definitions of actions (*e.g.* what constitutes inspections and enforcement actions) and methodologies for determining specific indicators, etc. In the UK, Defra's "Review of Enforcement in Environmental Regulation" (2006) concluded that the available enforcement and performance monitoring data were not adequate to allow the efficiency or effectiveness of enforcement actions or sanctions to be comprehensively assessed. The lack of linkage between data on incidents and data on enforcement action and penalties was seen as a particular problem.

Another important issue is the use of performance assessment information to provide feedback to legislators and policy makers. In every country, the enforcement authority does formal annual reporting, and in some (Finland, France, the Netherlands, and the UK) it is formally consulted when new regulations are developed. However, only VROM in the

Netherlands specifically analyses causes of non-compliance and evaluates enforcement efforts by studying a target group of regulated entities. Such evaluations are based on the "Table of Eleven" (see Section 1.2). VROM reports assessment findings to the central government and uses them in assessments of practical enforceability required for every new piece of regulation developed by the government.

2.4. Measuring and Reducing the Impact on the Regulated Community

"Cutting red tape", reducing the "administrative" or "regulatory" burdens on companies, "streamlining" or "simplifying" regulation and "better regulation" are common terms applied to the policy initiatives carried out in many European countries to improve the efficiency and effectiveness of regulation and to measure and adjust their impact on the regulated community.[5] Environmental regulations are one of the primary targets of these initiatives, which are driven by the desire to increase industry's competitiveness as well as to save government's own scarce resources.

Better environmental regulation is supposed to reduce regulatory burdens through *improvement of the requirements* themselves and the way they are *administered and enforced*, but without compromising the goal of environmental protection. The improvement of regulations covers a wide range of options, including removing redundant regulations, merging regulations into a more manageable form (*e.g.* via integration of permitting regimes), and resolving overlap or inconsistency within or between regulations. The compliance assurance aspects of better regulation include setting time limits for regulatory decision making, reducing the burden of paperwork in terms of self-reporting, and better targeting of compliance monitoring activities so that businesses devote less time and resources to government inspections (see Section 4.3). Application of new tools with the support of information technology and organisational changes are other means to improve regulatory efficiency.

The UK is currently undertaking a particularly radical regulatory reform agenda. The Hampton Principles adopted by the government[6] (see Box 2.1) outline a regulatory system adapted to the realities of the 21st century (with fierce competition, scarce resources, and well-informed consumers), in which risk assessment would be the basis for all enforcement programmes. The Environment Agency's strategic document "Delivering for the Environment" reflects those principles with respect to modern environmental regulation.

The UK Government has issued a regulatory code of practice to oblige both national and local regulators to follow the Hampton Principles.[7] The Regulators' Compliance Code came into force in April 2008. Any business or third party that believes that a regulatory agency fails to conform to the Code will be able to seek redress by means of a complaints procedure provided by the regulator or to apply for judicial review of the regulator's actions. The Code, however, only applies to policies and procedures and not to individual decisions made by inspectors.

The Netherlands, the UK, and a few other European countries have adopted a common framework for measuring administrative burdens – the Standard Cost Model.[8] For example, the Netherlands Environmental Management Act which constitutes, with its implementing regulations, the main body of Dutch environmental requirements was estimated to impose an administrative burden of 1 billion EUR per year, making it the fourth "heaviest" piece of legislation in the country.

Box 2.1. **Hampton Principles of Reducing Administrative Burden from Regulation and Enforcement**

- Regulators, and the regulatory system as a whole, should use comprehensive risk assessment to concentrate resources on the areas that need them most.
- Regulators should be accountable for the efficiency and effectiveness of their activities, while remaining independent in the decisions they take.
- All regulations should be written so that they are easily understood, easily implemented, and easily enforced, and all interested parties should be consulted when they are being drafted.
- No inspection should take place without a reason.
- Businesses should not have to give unnecessary information, nor give the same piece of information twice.
- The few businesses that persistently break regulations should be identified quickly and face proportionate and meaningful sanctions.
- Regulators should provide authoritative, accessible advice easily and cheaply.
- When new policies are being developed, explicit consideration should be given to how they can be enforced using existing systems and data to minimise the administrative burden imposed.
- Regulators should be of the right size and scope, and no new regulator should be created where an existing one can do the work.
- Regulators should recognise that a key element of their activity will be to allow, or even encourage, economic progress and only to intervene when there is a clear case for protection.

Source: HM Treasury (November 2006), Implementing Hampton: From Enforcement to Compliance.

Furthermore, these countries have set quantitative targets for the reduction in administrative burdens and assigned them to individual government agencies. The Dutch VROM has reached by the end of 2007 its overall objective of a 30% reduction of the administrative burden on businesses compared to 2002 (the Dutch government had a respective 25% reduction target). To achieve it, VROM's better regulation initiative included 70 projects, such as simplification of waste regulations, harmonising requirements between the national and provincial levels, and establishing a one-stop permitting system, as well as professionalisation of the environmental enforcement process. Better co-operation and co-ordination between inspection bodies, *e.g.* through the front-offices mentioned in Section 4.2, was an important element of this programme. Similarly, the UK government is committed to a 25% reduction in administrative burdens from its regulations from the 2005 baseline by 2010, which has also become a target for Defra and the Environment Agency.

The use of information technology (IT) has become an integral part of the better regulation approach. Environmental authorities increasingly rely on technological advances to obtain, manage, and disseminate compliance information. While IT tools are not an end in themselves, they play a significant role in compliance assurance: they can be used to support permitting, compliance monitoring, or facilitate compliance promotion.

Some IT tools involve provision of information on websites or allowing for electronic communication (*e.g.* of permit applications). These practices have already become

standard in all the reviewed OECD countries and are rapidly gaining ground in Russia and China. More sophisticated are interactive web-based systems such as compliance assistance tools (*e.g.* British NetRegs described in Section 3.1). These take time and resources to develop but can significantly increase the efficiency for both regulators and businesses.

Industry generally welcomes the better regulation reforms and would like to see more tangible progress faster, but it recognises that better regulation is essentially about cultural change which will not happen overnight. At the same time, some environmental NGOs are worried that better regulation is a pretext for compromising environmental standards. In response to the latter concern, the governments typically maintain that the reform is not about deregulation but seeks to achieve the same or better environmental results more efficiently.

Presently, there is no standard methodology to estimate costs of pollution prevention and control to comply with environmental regulations, although the Impact Assessment Guidance issued by the UK Better Regulation Executive requires an assessment of "the total annual cost of enforcement of the [regulatory] proposal". At the time of the writing, the UK government was consulting on proposals to introduce a system of regulatory budgets to constrain the total costs of new regulation (including enforcement) on the economy.

Notes

1. There are currently no such fees in Russia and the Netherlands, although the Dutch are planning to reintroduce a permit processing fee (abolished in the mid-1990s) under the forthcoming comprehensive permitting scheme.
2. "Creating a Better Place", the Environment Agency's strategy for 2006-2011.
3. *www.iso.org/iso/iso_catalogue/management_standards.htm*
4. It is interesting to note that pollutant reductions are concentrated in a very small number of enforcement actions. For example, just 23 of 2,632 cases reviewed by the 2007 Office of Inspector General assessment accounted for 52% of the projected pollutant reductions from concluded Clean Water Act enforcement actions.
5. The OECD survey "From Red Tape to Smart Tape" (2003) uses the term "administrative simplification".
6. In March 2005, Dr. Philip Hampton published his report "Reducing Administrative Burdens: Effective Inspection and Enforcement", prepared at the Government's request, in which he set out his vision for a risk-based approach to regulation.
7. The Hampton process does not directly extend to Scotland and Northern Ireland as far as devolved responsibilities (such as environmental regulation) are concerned. However, Scotland is actively considering the introduction of "better regulation" initiatives.
8. More information about the Standard Cost Model can be found at *www.compliancecosts.com*.

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PART I

Chapter 3

Compliance Promotion

Compliance promotion includes assistance, incentives, and other activities designed to promote observance of environmental requirements. Assistance may include education, training, outreach, and other activities to help the regulated community understand and meet its obligations. Incentives provide concrete benefits to individual operators when they comply or voluntarily report non-compliance. Other instruments, including market mechanisms, can also be used to encourage compliance.

Compliance promotion is particularly effective when:

- The regulated community consists of numerous small sources which are difficult to cover with compliance monitoring and enforcement activities;
- Non-compliance is caused by a lack of knowledge or a lack of capacity to comply among the regulated community; or
- There is a cultural resistance to enforcement, *e.g.* where new regulatory requirements are introduced.

Compliance promotion can reduce compliance costs to businesses by allowing them to achieve and maintain compliance as efficiently as possible, and may allow a reduction of compliance assurance costs to regulators by increasing the efficiency and effectiveness of compliance monitoring and enforcement activities.

This chapter focuses on such compliance promotion tools as dissemination of information on the requirements and compliance means to the regulated community, promotion of good corporate environmental management, financial incentives, and using public pressure to encourage compliance.

3.1. Information Dissemination to the Regulated Community

Regulation imposes obligations on businesses that can be (or be perceived to be) complex and unclear. Businesses can, therefore, benefit from support in understanding and complying with such regulation. This form of compliance assistance helps ensure that regulated entities are aware of their environmental responsibilities and provides them with the information they need to build their capacity to comply. The growing importance of this instrument is well illustrated by the fact that the number of regulated entities reached by compliance assistance in the US more than doubled between FY 2002 and FY 2007: from 590 000 to 1 228 000.[1]

The most informal way of providing compliance information to businesses is *direct communication between inspectors and operators*, usually during inspection visits. In Finland, inspectors often have discussions with operators on existing and potential compliance problems and possible solutions. The results of such discussions are recorded in the electronic compliance monitoring system (VAHTI). Small businesses may even benefit from inspectors' help in the development of internal environmental management plans to better comply with regulatory requirements. In addition to "retailer" compliance assistance as part of

regular activities, the Environment Agency of England and Wales offers up to 15 hours of free assistance as part of the permit application process.

In another example of direct assistance, the Envirowise service in the UK, supported jointly by Defra and the Department of Business, Enterprise and Regulatory Reform, provides guidance to businesses in the form of site visits to help managers identify opportunities for resource efficiency gains and pollution prevention. An initial visit is free but any follow-up assistance is fee-based. In general, most direct compliance assistance targets small and medium-sized facilities.

Traditional information dissemination tools include thematic workshops and facility visits, hotlines in relation to specific regulatory requirements, particularly for new rules. However, the main means of information dissemination to industry is *sector-specific best practices guidance* which is increasingly delivered via dedicated websites. Industry associations usually actively participate in the design of guidance documents and circulate them among their members.

In Finland, environmental authorities co-finance with industry the development of studies on specific issues of industrial environmental management. Sometimes industry associations ask the Ministry of the Environment for the endorsement of their own studies, which are then published on the Ministry's website. The Environment Agency in the UK goes one step further by working with trade associations to develop industry sector plans and guidance. Each sector plan provides an overview of each sector's environmental challenges and proposes environmental priorities, objectives and indicators of performance covering the next five to fifteen years in areas like resource use, waste, pollution, supply chain impacts, and EMS. Finally, US EPA-produced Industry Sector Notebooks for 33 sectors (including local governments) contain information on typical process operations, pollutants, applicable federal regulations, pollution prevention opportunities, most common environmental violations within the sector, voluntary initiatives, and associated organisations.

Benchmarking of environmental performance is increasingly used as part of compliance promotion information for industry. In the UK, the Environment Agency publishes an annual report "Spotlight on Business Environmental Performance" which contains cross-sectoral and sector-specific environmental performance information (*e.g.* waste generation, greenhouse gas emissions, wastewater discharges, serious pollution incidents) as well as positive and negative case studies. The "Spotlight" publicly praises good performers and "names and shames" poor performance.

Compliance information provided to industry sometimes includes *self-assessment tools* that operators can use to evaluate their level of compliance. For example, Audit Protocols developed by the US EPA provide tools to help facilities conduct self-audits and assess how well they comply with federal environmental regulations. The 13 protocols include an overview of the laws that apply to the sector and contain user-friendly checklists to help with the self-assessment.

The sophistication of industry guidance has increased dramatically in recent years, particularly with the development of *interactive compliance assistance websites*. In the US, 16 sector-specific web-based Compliance Assistance Centers created since 1998 consolidate and explain relevant environmental requirements and solutions. British NetRegs established in 2001 is an internet-based tool providing extensive, but simple to navigate, information to companies (especially SMEs) on the regulations that affect them and how they can address those regulations (see Box 3.1).

Box 3.1. **NetRegs – an Internet-based Compliance Assistance Tool in the UK**

NetRegs is a web-based tool created in partnership between the UK environmental regulators (for England and Wales, Scotland, and Northern Ireland) to provide free environmental guidance to small and medium-sized businesses throughout the country. NetRegs includes:

- Guidance by business type for 112 sectors in agriculture, construction, offices, etc.
- Guidance on 38 environmental topics;
- Guidance on existing and forthcoming national and EU legislation (users can also sign up for free e-mail alerts on the latest changes to environmental regulations); and
- Links to trade associations and other sources of environmental guidance and business support.

NetRegs also conducts surveys to look at environmental attitudes and behaviours among the country's SMEs as well as user testing. For example, the 2007 survey discovered that SMEs are most likely to use their local authority rather than the regulatory agency as the principal source of help on environmental issues.

NetRegs is currently undergoing a programme of enhancements aimed at providing more personalised and tailored information. Recent and continuing improvements include:

- An online compliance self-assessment tool.
- A postcode-driven "waste directory" containing a matrix of waste recycling and disposal contacts;
- A web-based interactive training tool, covering all aspects of waste management for a particular sector;
- Further expansion in the coming years of the sectoral coverage of the training tool; and
- Planned comprehensive guidance for businesses and local authorities on the import and export of waste.

Under the better regulation reform, the UK Government plans to integrate all but a hundred business assistance websites into one Business Link hyper-portal (*businesslink.gov.uk*) by 2011 in order to facilitate user navigation to different types of advice.

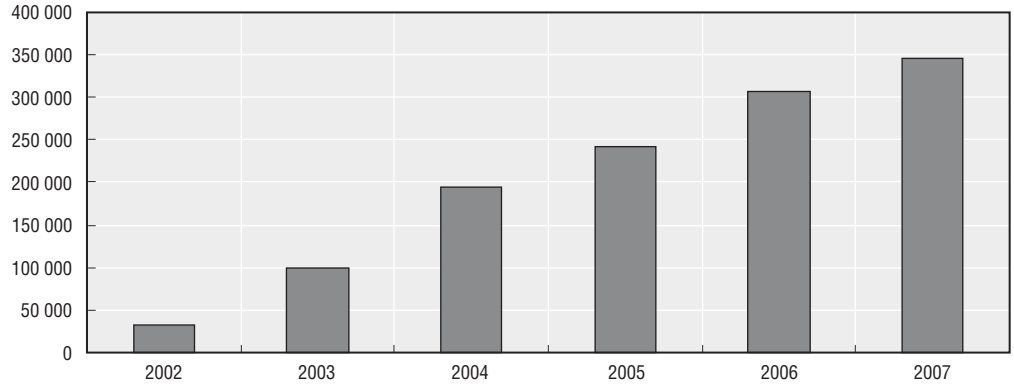
Source: www.netregs.gov.uk.

Web-based compliance assistance resources are increasingly popular among the regulated community. In FY 2007 alone, the US Compliance Assistance Centers were visited almost two million times. There are over 300 000 businesses using NetRegs per year (see Figure 3.1), and this number is expected to increase to 600 000 – 25% of all UK businesses – by 2011. According to a survey done by NetRegs, roughly half of its users are SMEs and the other half consultants and trade associations. However, larger, more complex industries benefit from internet-based assistance as well.

The development of such compliance information vehicles requires significant resources, mostly for producing the content, marketing and communications. Still, the US and UK regulators consider this a smart investment. For instance, it is estimated that NetRegs now delivers annual administrative cost savings to business of about GBP 10 million after the upfront investment of GBP 3.5 million.[2]

In an interesting contrast, compliance assistance in Russia is not part of environmental enforcement authorities' responsibilities, and there are doubts whether an enforcement authority should become involved in such activities. It is believed that industry should request compliance assistance from consulting companies on a commercial basis. Therefore, guidance documents for the regulated community are rare and, when produced, are usually associated with donor assistance projects.

Figure 3.1. **Web-based Compliance Assistance in the UK: Number of NetRegs Users**



Source: www.netregs.gov.uk.

The dissemination of compliance assistance information to the regulated community may best be achieved in partnership with multiple stakeholders, which in some countries go well beyond trade associations. The US EPA has established an extensive compliance assistance network covering different states and industrial sectors. The Agency uses partnerships with compliance assistance providers to prepare and deliver compliance assistance resources such as websites, compliance guides, fact sheets, and training materials. The EPA Office of Compliance co-ordinates among, and provides technical and financial support to, compliance assistance providers which include federal and state regulators[3], trade associations, as well as universities, non-profit organisations and consulting firms (see Box 3.2).

Box 3.2. **Third Party Compliance Assistance: Illinois Waste Management and Research Center**

The Illinois Waste Management and Research Center (WMRC) is a non-regulatory service organisation that is formally part of the Illinois Department of Natural Resources and is associated with the University of Illinois. It has been providing assistance to Illinois businesses since 1985 with support, among others, of the federal EPA.

WMRC engineers assist customers with permitting and compliance requirements under different regulatory programmes as well as with the development of emergency contingency plans. Additionally, WMRC's compliance assistance includes conducting two-day general environmental compliance audits as well as compliance audits of hazardous waste generators. It also facilitates the regulated community's contacts with various federal, state and local environmental and health agencies.

Source: www.wmrc.uiuc.edu.

While web-based tools address the challenge of accessibility of compliance guidance, there are ongoing efforts in most of the studied OECD countries to continuously improve its quality and user-friendliness. The Environment Agency of England and Wales is even seeking to obtain external accreditation – "crystal marks" – for regulatory guidance written in a clear and concise way (26 such labels have been obtained as of October 2007). The Agency wants to tailor its guidance to specific segments of the regulated community: for example, guidance for farmers was written in terms that farmers could relate to.

Unfortunately, very few countries try to measure the impact of compliance assistance programmes in terms of increased understanding of environmental requirements, improved environmental management practices, and reduced pollution. According to the US EPA's FY 2007 annual results report, among operators having received compliance assistance from the EPA, 91% claimed improved environmental management practices and 50% declared pollution reductions. Yet, the real effect of compliance assistance is not measured by these indicators because most innovating compliance assistance initiatives span several years and produce a long-term impact that cannot be accounted for by annual indices.

3.2. Promotion of Good Environmental Management

In recent years, the focus of compliance assistance in many OECD countries has been moving from the traditional regulatory programme-oriented approach to one of encouraging innovation and sustainability through establishing environmental management systems (EMSs), pollution prevention, energy conservation and greenhouse gas emission reduction, and generally going beyond compliance. The incentives for the adoption of good environmental management practices range from explicit, formal policies to using the existence of an EMS at an installation as one of the factors in targeting compliance assurance efforts.

The US EPA promotes EMSs in industry, state and local governments, and federal facilities as part of its enforcement policies. Where the EPA determines that a root cause of a violation is the absence of a systematic approach to identifying, understanding, and managing the regulated entity's compliance, the ordered corrective actions usually include developing an EMS with a compliance focus. In addition, under the Audit Policy, a violator who discovers, promptly discloses, corrects, and prevents a recurrence of a violation through the implementation of an EMS meets the policy's "due diligence" criterion, which may result in a waiver of the gravity-based component of a civil penalty.

The adoption of an ISO 14 001 EMS[4] or a similar European EMAS standard may entitle operators to certain privileges in the permitting process. In the Netherlands, EMS-certified operators can apply for permits that are less detailed and prescriptive. In England and Wales, a functioning EMS is incorporated in an installation's Operational Risk Appraisal (Opra) score (see Chapter 4), which results in a reduced permit charge compared to sites without an EMS (a similar benefit exists in Finland). The US has a nationwide Performance Track programme that offers public recognition, expedited permitting and other regulatory flexibility to encourage companies that have had an EMS functioning for at least a year and have committed to reductions in energy use.

The inspection frequency may also be indirectly related to the presence and quality of the operator's EMS, but ISO 14 001 certification does not depend on compliance and so in itself is not a reason for special treatment in compliance monitoring; it is the actual

compliance performance that counts. Moreover, in many cases, environmental authorities focus just on the key EMS elements such as the involvement of senior management in environmental matters, identification of all environmental aspects, energy conservation, etc., while foregoing the complex paperwork recordkeeping requirements of the ISO 14 001 standard.

While in the late 1990s environmental authorities in many of the studied OECD countries actively promoted EMSs in workshops and via advertising, they no longer consider it necessary to make special efforts because international market pressure to implement such systems is a much more powerful factor. Moreover, EMS adoption by large industry often contributes to the "greening of the supply chain" when major corporations start to demand good environmental practices from their suppliers.

Corporate environmental management is increasingly regarded as a key part of businesses' global competitiveness strategy. This is particularly true in Japan, where the Voluntary Action Plan for the Environment adopted in 1997 by the Japan Business Federation (Keidanren) was based on the assumption that industry's accountability had to be increased through publicly declaring specific environmental objectives and regularly reporting on their achievement.[5] Quantitative targets and specific implementation timelines most often address greenhouse gas emissions control, the reduction, reuse and recycling of waste (3Rs), and reduced use of hazardous chemicals in manufacturing. Under the Action Plan's umbrella, 41 participating industries and 142 industrial organisations have taken different voluntary initiatives. Although there are no regulatory incentives in Japan for companies to obtain EMS certification or undertake voluntary actions, Japanese businesses consider such initiatives as a way to reduce the potential of further government regulation.

3.3. Financial Incentives

There are very few cases of environmental compliance-related direct financial assistance in the studied OECD countries. The governments do not provide subsidies to industry for achieving compliance with environmental requirements as a matter of principle.

At the same time, there are several financial mechanisms available to private companies willing to invest in innovative environmental technologies. In Finland, the state's special financing company Finnvera gives reduced interest loans for environmental investments by SMEs, but the loans are conditional on the planned measures going beyond regulatory requirements and the use of BAT (the applications need to be certified by the competent environmental authority). The Japanese government provides industry with tax preferences (*e.g.* reductions in the local corporate tax) as well as low-interest loans and sometimes grants for cleaner and climate-friendly technologies.

While in France private companies generally receive significant financial support from the government, environment-related financial assistance there is also limited to technological innovation projects going beyond compliance. France's Environment and Energy Management Agency (ADEME) provides technical assistance and subsidies for investment projects in air pollution reduction, waste management, soil remediation, renewable energy, energy efficiency, and cleaner transportation to enterprises and local communities. Water Agencies in France have similar programmes for water pollution prevention and control and industrial water use (see Box 3.3).

In addition to direct financial assistance, there are examples of other financial incentives for environmental investments. For instance, the French government offers accelerated

Box 3.3. **Water–related Financial Assistance to Industry in France**

The Water Agencies provide zero-interest loans and small grants for industrial water reuse, water pollution minimisation at the source, and prevention of accidental wastewater discharges. The assistance covers feasibility studies, treatment technologies, water efficiency and other process optimisation measures. Direct grants are provided only for measures leading to ambient water pollution reduction. For example, in 2006, the Seine-Normandie Water Agency distributed EUR 25.1 million in grants and EUR 23.3 million in zero-interest loans to industries (just 8% of the total assistance budget, most of which goes to local communities) while farms received EUR 24.2 million worth of grants.

The entire assistance budget comes from water abstraction and wastewater discharge fees paid by the regulated community. Conforming to European regulations on public aid to economic activities, subsidies are limited to 30% (40% for SMEs) of project costs. Subsidy award decisions (especially for larger projects) are made in consultation with relevant environmental inspection services (DRIREs), and assistance is not provided to installations operating under a compliance notice. Project implementation is subject to financial and sometimes technical control by the Water Agency but there are no studies evaluating the real impact of the assistance on the reduction of water pollution.

Source: Seine-Normandie Water Agency (2006) Annual Report, *www.eau-seine-normandie.fr*.

amortisation and reduced property and professional taxes for buildings and equipment related to industrial wastewater treatment, renewable energy and energy efficiency, and noise protection. The Development Bank of Japan uses environmental screening to evaluate the level of corporate environmental management and reflects the findings in the conditions attached to its financing services. In Russia, the offsets scheme which was in place until 1998 and is currently considered for reintroduction provided an opportunity to deduct expenditures on eligible environmental projects from pollution charge payments (whose rate is also related to compliance with emission and effluent limits set in permits).

Box 3.4. **Innovative Economic Instruments to Deter Environmental Non-compliance in China**

In 2007, China's Ministry of Environmental Protection (MEP) and the China Banking Regulatory Commission jointly announced the "green credit" initiative (already tested in Jiangsu province) under which environmental performance of loan applicants must be taken into account by the bank. Loan applicants with poor compliance records have to pay higher interest rates, and serious violators should be denied credit. The MEP has created a database of 15 000 environmental violations and made it available to commercial banks. Some foreign banks are also planning to work with the MEP on this initiative.

Also in 2007, the MEP and China's Ministry of Commerce announced that firms with serious environmental violations would be subject to an export ban for one to three years. The two government bodies are expected to set up a database to collect information of exporters with poor environmental compliance records.

Early in 2008, the MEP launched a "green securities" scheme aimed at making it harder for polluters to raise capital and requiring listed firms to disclose more information about their environmental record. One element of the "green securities" programme is already in place: companies in sectors including thermal power, steel, cement and aluminium need MEP approval before they can apply to the securities regulator to sell shares.

Source: www.sepa.gov.cn.

In recent years, China has introduced a number of innovative financial disincentives (see Box 3.4) targeting companies with poor environmental compliance records. However, it is too early to judge what impact these instruments are having on the level of environmental compliance in the country.

3.4. Role of Public Pressure

The fear of adverse publicity for environmental offenders often acts as a strong deterrent to non-compliance with environmental requirements. Public disclosure of violations is, therefore, a powerful tool used deliberately by government agencies, NGOs, sometimes even courts, to obtain compliance.

The US EPA and state environmental agencies routinely issue press releases and news stories and hold press conferences about enforcement actions and penalties assessed against violators. Often these actions are a combined effort of federal and state enforcement authorities – the US Justice Department and the State Attorney General. In addition, the US EPA discloses all enforcement and compliance records, which also has a major compliance promotion effect. The Enforcement and Compliance History Online (ECHO) database contains public information on permits, compliance inspections, violations found, and enforcement actions taken. ECHO is updated monthly and provides a snapshot of each facility's compliance record. In FY 2006 alone, ECHO registered 865 000 public queries. Experience shows that after an enforcement case is publicised, other firms having a similar problem may use the information to resolve their non-compliance and even contact the EPA or state agencies to talk about it. (At the same time, when monitoring data show improvements of environmental performance, industry routinely contacts the media to get that message out.)

The use of public disclosure is closely related to the public access to environmental information in general and compliance information in particular. Many countries use instruments of environmental information disclosure to trigger market reactions and community pressure against violators. One well-known example is the US Toxics Release Inventory (TRI) under the Emergency Planning and Community Right-to-Know Act (1986) which provides information to the public on releases of toxic chemicals from manufacturing facilities. In 2000, the European Union created the European Pollutant Emission Register, the first EU-wide register of industrial emissions into air and water, and is now replacing it with a broader European Pollutant Release and Transfer Register (E-PRTR) which will be fully implemented in 2009 and also cover releases to land, waste transfers, etc.[6]

There are also other means of information dissemination to, and dialogue with, the public on environment-related risks. For example, in France, Local Information and Dialogue Committees (CLIC) are dedicated to informing the public about the risks and performance of Seveso high-risk industrial installations (regulated under the EU's so-called Seveso II Directive 96/82/EC). In this context, environmental NGOs are also becoming more active in putting pressure on government agencies to better share environmental information. For example, *France Nature Environnement*, a federation of about 3,000 local environmental associations, has established a network of its members sending representatives to local consultation bodies (such as the CLIC) to better inform and educate them about topical issues of industrial environmental regulation and compliance assurance.

While PRTRs and similar schemes are complex and resource-consuming, simpler information-based tools are well suited for less sophisticated compliance assurance systems

where they partly compensate the weakness of enforcement practices. China's Ministry of Environmental Protection has become interested in environmental performance rating and information disclosure precisely as a means to complement traditional compliance assurance instruments. Chinese regulators were influenced by the rapid spread of pollution disclosure systems in other Asian countries in the wake of pilot programmes which were initiated in collaboration with the World Bank (see Box 3.5).

China also uses "positive" public relations incentives. The MEP and some local environmental agencies evaluate industrial performance and identify excellent performers as "environmentally friendly" or "green" enterprises. In 2006, 38 enterprises were awarded the title of the "Nationwide Advanced Enterprise on Environmental Protection". The effect of such environmental recognition programmes is, however, limited, unless the government follows up to enable excellent environmental performers to capitalise on their environmentally friendly behaviour.

Box 3.5. **Environmental Performance Rating and Information Disclosure in China**

Since late 1998, the Ministry of Environmental Protection (MEP) has worked with World Bank experts to establish Green Watch, a public disclosure programme for industrial polluters adapted from Indonesia's PROPER. In 2003, the MEP issued a Circular on Publishing Environmental Information of Enterprises which required provincial and municipal Environmental Protection Boards (EPBs) to publish lists of polluters exceeding discharge standards. In 2005, the MEP issued guidelines to promote the disclosure programme nationwide.

In 26 provinces, the information on the regulated community is compiled by EPBs to evaluate a firm's environmental performance by a colour code, from best to worst: green, blue, yellow, red, and black. The colour rating results are published in local newspapers and broadcast on local TV and radio (in some provinces – on the Internet). EPBs use this information to better target their inspections, so that limited resources are used more efficiently.

The colour rating for each individual enterprise is calculated on the basis of three major sources: self-monitoring data on emissions of 13 regulated air and water pollutantsas well as waste management, administrative records (covering inspection, public complaints, and administrative penalties), and special surveys on firm-specific characteristics such as the existence of an internal environmental management system. The following elements of firms' environmental behaviour are considered: timely payment of pollution charges, implementation of the National Pollutant Discharge Reporting and Registration Programme, implementation of the Standardised Waste Management Measures and other regulatory requirements, self-monitoring, staff training and record keeping, energy and resource efficiency, etc.

The rating scheme is voluntary and offers participants an opportunity to discuss the result with the authorities before disclosing it to the public. However, some local governments tend to conceal information on poor environmental performance of big enterprises within their jurisdiction because they are important employers and tax contributors.

Source: OECD (2006), "*Environmental Compliance and Enforcement in China: An Assessment of Current Practices and Ways Forward*."

Overall, evidence shows that information-based instruments can increase the probability of detecting non-compliance, create deterrent effects, and reduce administrative costs of enforcement. The challenge is how to apply them coherently with the traditional enforcement tools and how to adapt them to specific economic, social, and environmental conditions.

Notes

1. US EPA Compliance and Enforcement Annual Results: Numbers at a Glance, *www.epa.gov*.
2. Environment Agency of England and Wales, 2008.
3. States usually receive federal grants for compliance promotion activities but use them in accordance with their own priorities. Some states (*e.g.* New Jersey, California, Pennsylvania) even have a separate, high-level compliance assistance office.
4. *www.iso.org/iso/iso_catalogue/management_standards.htm*
5. Some prefectures in Japan enacted formal ordinances to make companies adopt a voluntary improvement plan and publicly disclose progress in its implementation.
6. The OECD has done a lot of work to promote the implementation of PRTRs, including the publication of a PRTR Guidance Manual, following the 1996 OECD Council Recommendation on PRTRs.

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PART I

Chapter 4

Compliance Monitoring and Assessment

Compliance monitoring supports regulatory programme implementation in various ways. The most obvious one is detecting violations and quickly correcting some of them. Compliance monitoring also provides evidence to support enforcement actions and, in doing so, deters non-compliance. In a broader perspective, compliance assessment supports compliance assurance strategies through better knowledge of the regulated community and contributes to the evaluation of regulatory programme implementation.

This chapter considers best practices in the use of key compliance monitoring tools in the studied countries as well the main trends in their development. It also analyses different approaches to risk-based targeting of compliance monitoring activities and describes the expanding role of self-monitoring and reporting by industrial operators.

4.1. Compliance Inspections

Inspections conducted by government authorities (or third parties contracted by the government) remain the backbone of any compliance assurance programme. A key benefit of an on-site inspection is that it can reveal operational and compliance problems that emission monitoring data alone will not show.

As inspections generally seek to verify compliance with facility-specific requirements, the *substantive focus of inspections* largely depends on how those requirements are set. In EU countries with fully integrated permitting systems (*e.g.* in France and Finland) all the inspections are multimedia. In the UK and the Netherlands, where the permitting regimes remain differentiated (see Section 1.3), both integrated and water-specific inspections are used. Conversely, inspections in Japan are medium-based only, corresponding to the regulatory programmes.

However, multimedia (or at least co-ordinated) inspections also exist under single-medium permitting regimes. For instance, in Russia, multimedia inspections represent a majority of site visits conducted by the federal enforcement authority. In the US, where inspections are generally conducted under single-medium regulatory programmes, there are several exceptions. At the state level, one example is Massachusetts which has been conducting multimedia inspections (covering air, water, wastewater, hazardous and solid waste) for the last 15 years, primarily to avoid the cross-media transfer of pollution.[1] The experience accumulated over the years has allowed the state to substantially reduce the number of inspectors visiting one facility from 3-4 to often just one (for SMEs). The federal EPA also conducts multimedia inspections, but usually only for very large facilities, following significant complaints, or when inspecting federal facilities. Still, there is no nationwide trend toward integrated inspections, in part because implementing integrated inspections would require substantial upfront investment in re-training of inspectors (in EPA's Region V in the Upper Midwest, only about 0.5% of all inspections are multimedia).

The *specialisation of inspectors* is also to a large extent related to the integrated or medium-specific nature of regulatory regimes. Where inspections are conducted separately under single-medium programmes (in the US, Japan and Russia), inspectors are more specialised. In

England and Wales, where the Environment Agency carries out both integrated and medium-specific inspections, there are multifunctional teams in each local office comprising generalist Industry Regulation Officers and Environmental Protection Officers who are experts in waste and water issues. Most French inspectors are expected to be generalists and cover all industrial sectors, but may call on technical specialists in the regional DRIRE office for support if necessary.

Inspectors are usually not officially specialised in any particular sector (pulp and paper industry specialists in Finland are an exception), but it often happens in practice that inspectors get assigned to similar installations. In some enforcement agencies (*e.g.* in the US and the Netherlands), there is also distinct specialisation in criminal investigation of environmental offences. In addition, there is an emerging practice of *outsourcing* some of the competent authority's compliance monitoring functions (for example, the Environment Agency in the UK employs contractors to undertake compliance sampling of air emissions).

There are two broadly different approaches to *scheduling site inspections* in the studied countries. In some countries (the UK, the US, Japan, Russia, and China), site inspections are predominantly unannounced to observe routine facility operations. However, there may be specific reasons for pre-arranging an inspection to discuss specific operations or to check progress in correcting previously identified problems. In contrast, in France, Finland and the Netherlands inspections are usually announced to the operator in advance to ensure the presence of relevant enterprise staff on the site. Unannounced inspections in these latter countries are triggered by accidents, complaints (so-called reactive inspections), or the need to take pollution samples.

Adequate *response to complaints* is seen as a political priority in many of the studied countries. Most environmental enforcement agencies have established telephone and website hotlines for reporting acute environmental accidents and other environmental crisis situations. For example, in the Netherlands, the central government's VROM Inspectorate maintains a VROM Reporting Point and six regional multidisciplinary Action Teams to handle public complaints, while the provincial inspectorates and some municipalities operate 24-hour Environmental Information Point services. Each service acts as a single point of contact for environmental information enquiries and complaints from the public as well as for notification of accidents from the regulated installations.

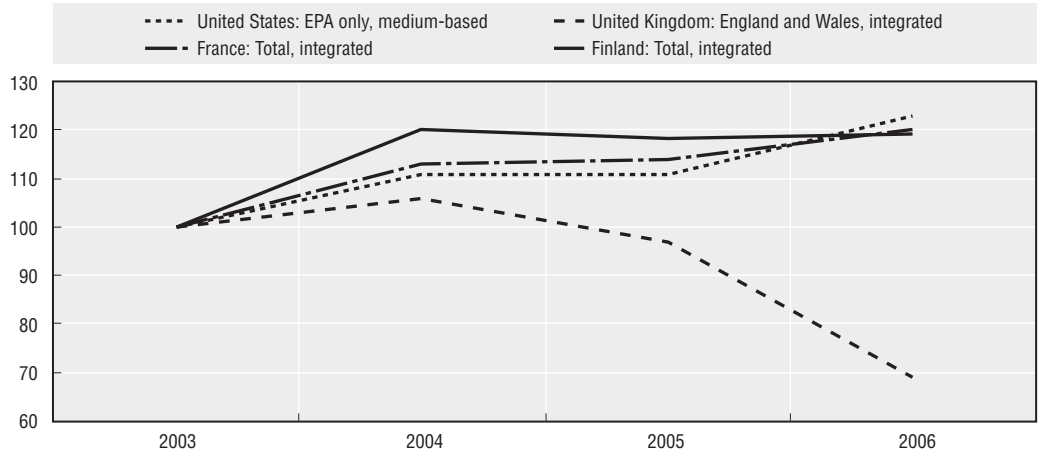
China has recently made dramatic progress in implementing good practices in addressing citizens' complaints. The first 24-hour "12369" telephone hotlines were launched in several cities (*e.g.* in Dalian) in 1999. Now there are about 2 000 environmental hotlines in China, covering over 70% of its territory. In 2003-2006, the Environmental Protection Boards at all administrative levels received 1.58 million public complaints through such hotlines.

There are diverging trends with respect to the *number of inspections* in the studied countries (see Figure 4.1). In France, there has been significant growth in the number of site inspections between 2001 and 2006, corresponding to the increased inspector staff. The same trend is present in the US and China. In Japan, the number of inspections has remained fairly stable over time. On the other hand, there is a trend toward reduction of the number of inspections in the UK, the Netherlands, and Russia, and its stabilisation in Finland.

In countries like France and the US, programmatic targets for compliance assurance are usually associated with an increased number of site inspections. As shown in Figure 4.2, the number of inspections in France increased between 2002 and 2006 even as the number of

Figure 4.1. **Diverging Trends in the Number of Inspections**

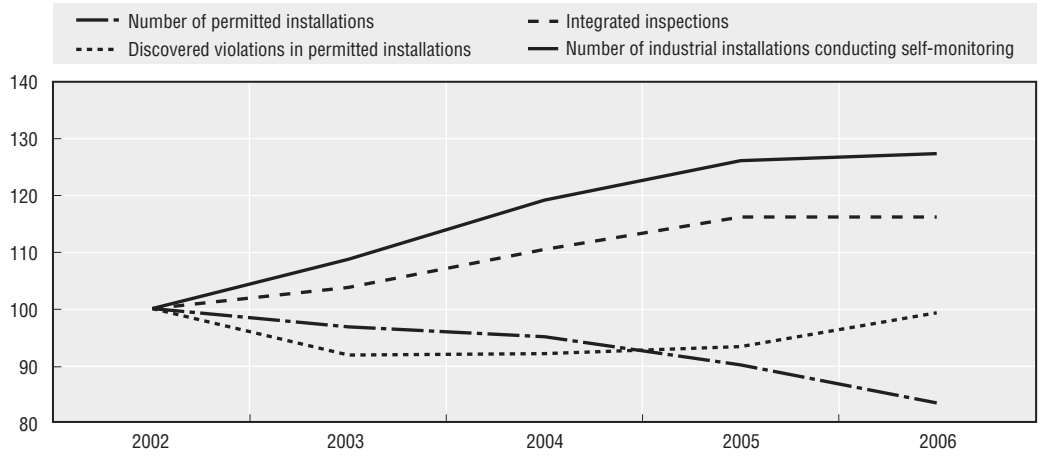
% change over 2003



Sources: US EPA, Environment Agency of England and Wales, French Ministry of Sustainable Development, Finnish Ministry of the Environment (2007-2008).

Figure 4.2. **Dynamics of Inspections and Discovered Offences in France**

% change over 2002



Source: Department for Pollution and Risk Prevention, French Ministry of Sustainable Development (2007).

permitted installations subject to inspections declined (certain categories of installations were moved from the permitting to the declaration regime). Yet, the number of detected offences decreased over the same period. It could be argued that the decline in the number of violations was caused by the fact that more operators conducted self-monitoring (see Section 4.4) or by a threat of more frequent inspections. However, it seems from this graph that conducting more inspections does not necessarily mean better detection of violations.

Moreover, in England and Wales, as the number of multimedia inspections dropped by 39% and the number of medium-specific inspections decreases by 20% between 2002 and 2006, the detection of violations actually grew by 16%. In the UK, this is undoubtedly related to the better targeting of inspections, but also to the diversification of compliance monitoring tools themselves.

4.2. Modernisation of Compliance Monitoring Tools

The modernisation of compliance monitoring instruments can be seen in two general trends: the diversification of the instruments themselves and the improvement of their quality. Both trends are tightly linked to better targeting of compliance monitoring activities in general (see Section 4.3).

The *diversification of compliance monitoring tools* involves both the introduction of more in-depth compliance assessments or audits (*e.g.* in the UK and the Netherlands) and the replacement of some site visits with off-site record reviews and regular meetings between inspectors and operators to discuss existing and potential compliance issues (*e.g.* in Finland).

An *audit* serves to identify root causes of non-compliance, particularly at larger installations. Audits usually review the effectiveness of an operator's management system. In addition, an audit could be used to assess whether or not the permit still provides the appropriate level of environmental protection (*i.e.* by benchmarking it against up-to-date best practices). Audits are always planned, and the operator is notified to provide information or attendance of certain personnel. Audits are conducted much less frequently than inspections but may take up to a week at a time to conclude.

The Environment Agency of England and Wales pursues a general policy toward more management-focused audits rather than inspections: the number of audits has increased four-fold over the last five years. The Agency finds that looking at causes rather than symptoms leads to much less recidivism in violations. In the last 6-7 years, some Dutch environmental authorities (*e.g.* DCMR) have also started to conduct system audits at higher-risk installations. In the Rijnmond area under DCMR's jurisdiction, audits account for about 25% of all compliance monitoring activities, and 10-15% of the inspector staff are specially trained auditors.

Another type of an in-depth compliance assessment is an *investigation* – an extraordinary enquiry conducted when an inspection or record review suggests the potential for serious, widespread, or continuing violations, usually of criminal nature. It may also be triggered by a citizen complaint or a referral from another agency. Criminal investigations typically take a long time and may be conducted by the competent authority's own criminal investigators (as at the federal level in the US), by a special investigation service under the authority of a public prosecutor (as in the Netherlands), or by the police.

In order to improve the *effectiveness of compliance monitoring*, the European Commission adopted a "Recommendation on Minimum Criteria for Environmental Inspection" (2001/331/EC) which has since 2001 been implemented to various degrees by most EU Member States. In some countries (as in the Netherlands) substantial parts of the RMCEI were even incorporated into national legislation.

The RMCEI covered such aspects as the planning of inspections, working methods during inspections, and reporting of their results. For example, according to the Recommendation, an *inspection plan* should include at least the following elements:

- Definition of the geographic area which it covers;
- Definition of a timeframe (*e.g.* one year);
- Specific provisions for its revision;
- Identification of specific sites or types of regulated installations covered;
- Programmes for routine inspections, taking into account environmental risks;

- Procedures for non-routine environmental inspections in response to complaints, accidents, occurrences of non-compliance, and for permitting purposes; and
- Procedures for co-ordination between different inspecting authorities, where relevant.

The issue of institutional co-ordination of inspections is important in several of the studied countries. In the Netherlands, about 500 organisations are required to carry out inspections of compliance with safety and environmental regulations, which often results in inefficiency and inconsistency. A study prepared by the Association of Dutch Chemical Industry showed that a chemical company can be subject to inspections by 22 different competent authorities. In an effort to address these concerns, several pilot initiatives have been undertaken to conduct inspections jointly by several regulatory authorities (*e.g.* with Water Boards). The inspection bodies have created so-called "front offices" – co-ordination units for specific industry sectors at the national and provincial levels. While individual authorities keep all their formal responsibilities and powers, they can, when appropriate, delegate certain tasks to other government agencies. More cross-sectoral integration of compliance monitoring is expected with the implementation of the integrated land use and development permit (see Section 1.3).

There is also a clear trend toward *standardisation of methods and tools* for inspectors' activities. For instance, in France, the environment ministry's Directorate General of Risk Prevention issues a Methodology of Inspection Visits which covers the preparation of a site visit, activities during the visit, and the reporting phase, and provides key document templates. Every inspector is issued a handbook (also available on the Intranet) containing all essential procedural guidance, document templates, and supporting information. In addition to the guidance from the central government, most local inspectorates issue their own procedures for inspection visits and response to accidents. The Compliance Classification Scheme in England and Wales (see the following section) is another example of standardisation of approaches to compliance assessment.

Information technology is also increasingly used in inspection planning and reporting. In Finland, a written record of the inspection, including all references to non-compliance and agreed corrective actions, is entered into VAHTI, the electronic compliance monitoring system. VAHTI has a reputation as an effective tool in the everyday work of the environmental administration. Connected to VAHTI is a database of all regulated entities and a document management system which contains all electronic documents produced and received by the environmental authorities. Since 2005, the joint website of the state environmental authorities contains, among others, the number of inspections for each REC in a given year, reasons for each inspection, and its key results. Inspection reports are not available online, but the public can request access to them from the relevant inspector, who excludes confidential data from the information disclosed. Such systems make inspection authorities transparent in their activities and accountable to the public. They also contribute to the improvement of the quality of compliance monitoring.

The modernisation of compliance monitoring imposes extensive demands on *staff training*. While competent authorities in all the reviewed countries offer some kind of training to their personnel, the US EPA and the Environment Agency of England and Wales have the most comprehensive training programmes. The EPA has been operating the National Enforcement Training Institute (NETI) since 1991, providing free of charge classroom-based and online training to federal, state, local, and tribal environmental enforcement personnel on the full spectrum of compliance assurance tools. The Environment Agency has a special

Training Department which is in charge of a curriculum of over 300 training courses and co-ordinates training evaluation.

4.3. Targeting of Compliance Monitoring Activities

Risk-based targeting of environmental inspections is a major trend rapidly gaining ground in OECD countries over the last decade, although random inspections are still conducted in every country. This trend is also emerging in many non-OECD countries, including China and Russia. The principal reasons for this are the following:

- The growing number and variety of statutory environmental requirements enhances the field of compliance monitoring and makes prioritisation necessary.
- The diminishing resources of environmental authorities are driving the need to "do more with less" by increasing the efficiency of compliance assurance.
- As the regulatory framework becomes more complex, there is also increasing pressure to reduce the administrative burden on the regulated community, part of which is imposed by compliance monitoring requirements.[2]

Risk-based regulation seeks to focus compliance assurance on business activities that are of higher risk to human health or the environment. Competent authorities aim at delivering greater environmental benefits for the same amount of compliance and enforcement effort. Risks depend on a number of factors. Risk varies with the type of activity: a large complex installation with high volumes of hazardous substances poses a greater risk than a simpler process handling relatively inert substances. Risk can also vary with location: an activity located next to a school might be viewed as a greater risk than one on an industrial estate. Compliance record is also important: an activity can be viewed as a greater risk if its operator has a history of not complying with environmental requirements. However, there are different approaches in the studied countries to taking account of these factors, varying in complexity and degree of formalisation.

The first approach to targeting of compliance monitoring consists of *defining categories of installations based on risk-related criteria and setting minimum inspection frequencies* for each category. In addition to minimum inspection frequencies, competent authorities tend to informally consider local and operator-specific risk factors to further prioritise their inspection activities. This approach is followed in France, Finland, the US, and Japan.

In France, the average inspection frequency for permitted installations is currently about once in four years. "National priority" facilities (there are about 2 000) are inspected at least once a year. They include high-risk Seveso and priority IPPC facilities, large hazardous and municipal solid waste handling facilities, and facilities spreading waste sludge on agricultural land. There is also an annually updated list of about 8 000 "high-stake" facilities (determined regionally based on national criteria) which are inspected once every three years, including all those subject to European legislation. All other (roughly 44 000) permitted facilities should be inspected at least once every seven years.

Besides the national requirements for inspections, the national guidance on inspection planning sets risk-based criteria which serve to determine whether particular inspections should receive higher priority in the annual plan, whether they should be routine, in-depth, or be accompanied by supplementary checks (*e.g.* sampling or document review). Those criteria are essentially related to the importance (complexity of operations and sensitivity of the surrounding environment) and the compliance record of a facility. The compliance record is measured by the occurrence of violations over the previous four years

and timeliness of reporting. The existence of an EMS and proactive response to local community complaints are considered to be attenuating factors.

The US EPA has several inspections targeting strategies, from those focusing on priority pollutants in a segment of the regulated community or in a geographic area to addressing high rates of non-compliance in a specific type of industry or under a specific regulatory provision. Minimum inspection/evaluation frequencies for major pollution sources are recommended by the EPA in Compliance Monitoring Strategies established for different statutory programmes. National environmental priorities (see Section 2.2) are also a major factor in defining EPA's compliance monitoring efforts. The targeting factors may be conveyed via the National Program Managers Guidance, statute-specific strategies, inspection manuals, or grant guidance for states.

Some EPA Regions use innovative techniques to target inspections: they use search engines and databases (Google, Yahoo Business, the Securities Exchange Commission database) where data may indirectly point to potential violations. The EPA may inspect one or two facilities of a large company and, if some potentially typical violations are identified, engage the whole company on a multi-state or even nationwide basis in evaluating and achieving compliance at all its other similar facilities. At the same time, the EPA conducts a fair share of random inspections.

The second, more sophisticated, approach consists of *formal prioritisation of regulated installations with the help of a complex scoring system*. It is used in the UK and, to a fair degree, in the Netherlands.

The Environment Agency of England and Wales estimates that well over half of its site inspections are carried out on the basis of risk assessment, and their share continues to increase. To support the targeting approach, the Agency developed four tools (outlined in Box 4.1) that fit together to make up the compliance assessment process for pollution prevention and control and waste management regimes:

- The Operational Risk Appraisal (Opra) scheme provides a risk-based rating;
- Compliance Assessment Plans are used to match the regulatory effort and available resources to the Opra risk profile;
- The Methodology for Assessing Compliance gives guidance to compliance assessment staff; and
- The Compliance Classification Scheme provides consistency across different regulatory regimes in the reporting of non-compliance with permit conditions and the action taken.

The Netherlands has a variety of risk-based targeting schemes at the central and provincial levels.[3] As part of its Compliance Strategy, the VROM Inspectorate proposed a simple four-cell matrix combination of compliance rates (for 16 statutory tasks, largely based on expert judgement) and risk factors to determine the frequency and types of inspection appropriate for individual installations.[4] Sometimes provinces use their own methods to set inspection priorities for different industry sectors and within each sector. For example, the Province of Limburg uses a prioritisation model which gives an annually updated score to installations based on 16 different parameters: safety, risk to surroundings, compliance, complaints, incidents, date of permit issuance, etc. The higher the score, the more inspections an installation requires. DCMR in the Rijnmond area around Rotterdam has developed a fairly sophisticated preventive "tailor-made enforcement" approach based

Box 4.1. **Tools for Risk-based Targeting of Compliance Assessment in the UK**

The *Operational Risk Appraisal (Opra)* scheme has been developed by the Environment Agency to enable a common approach to regulation and to target those industries that pose the greatest risk to the environment. Opra currently covers installations subject to the Environmental Permitting Regulations (large industrial and waste management facilities) and the wastewater discharge regulation. Opra is a *software-supported tool* designed to score operators on the basis of environmental hazard of a regulated facility (its complexity in terms of multimedia impacts, location with respect to urban and environmentally sensitive areas, volume of pollution releases, and potential for accidents) and its operator's performance (compliance record and environmental management practices). Opra also helps to calculate administrative charges for such facilities.

A Compliance Assessment Plan (CAP) is a plan of compliance assessment work with objectives for the forthcoming year. CAPs are used to ensure that compliance against all requirements of permits and other regulatory instruments is checked within a defined period. CAPs give the Environment Agency's operational teams flexibility to allocate resources (within the same regulatory regime) toward priorities – based on risk, outcomes, and local needs.

The Opra score determines the initial resource allocation, sector CAPs outline compliance monitoring priorities for industry sectors, and site/installation-specific CAPs take into account local issues and objectives (e.g. following a major audit or using local regulatory knowledge). Producing a site/installation CAP means that the amount of effort and the proportion of compliance activity types can be changed from those set in the sector CAPs. The targeting of compliance assessment activities is also increasingly intelligence-led. For example, the national intelligence database helps the Environment Agency compile information on illegal waste sites, which is used to target local activities.

A Methodology for Assessing Compliance (MAC) is a guide for staff undertaking all types of compliance assessment activities. There are several types of compliance assessment guidance for Environment Agency personnel: generic, by regulatory regime, and by industrial sector. There are also compliance criteria to enable consistent identification and scoring of violations.

The *Compliance Classification Scheme (CCS)* assesses the operator's performance against the permit conditions. It is used to classify non-compliance with these conditions according to potential impact on the environment and provides information to support consistent and proportionate non-compliance response. The potential risk categories used within the CCS are ranked from 1 (the highest potential risk from a violation) to 4 (no immediate harm to the environment is likely). These categories are used to inform the Environment Agency's enforcement activities and are linked to the Enforcement and Prosecution Policy. The CCS information contributes to the facility's Opra score and allows national profiling of sectors and companies.

Source: Environment Agency (2008).

on environmental risk, environmental impact, and environmental performance of each installation (see Box 4.2).

While formal risk-based scoring used in the UK and the Netherlands is more transparent than less formal risk-based approaches, it requires greater input from operators, raising the importance of communication with the regulated community. Indeed, the adoption of the complex scoring systems has been achieved in close communication with industry to

Box 4.2. **Targeting of Compliance Monitoring and Enforcement in the Rijnmond Region**

The Rijnmond Environmental Protection Agency (DCMR) has developed a risk-based approach to enforcement to employ the available instruments in a more effective and efficient way and to stimulate operators to improve their environmental performance.

In order to provide these tailored services, DCMR differentiates between "complex" and "non-complex" installations. Complex installations are those that include more than one production unit, have complex (chemical or physical) production methods, a high level of integration of various process activities, and a substantial impact on the environment.

Companies are also divided into "frontrunners", "middle runners", and "stragglers". The criteria for being categorised as a frontrunner vary by sector. Generally, complex installations are required to have a certified environmental management system (or be at an advanced stage of developing one) and an excellent regulatory compliance record, display a high degree of environmental awareness, and actively implement environmental improvements which reach beyond their own company (*e.g.* via a supplier policy). Middle runners are overall in compliance with the regulatory requirements but have no structured approach to continuous environmental improvement. Stragglers are environmentally passive and present an increased risk of violations. Within this latter category, "risk group companies" are those where violations could lead to a serious environmental impact.

In order to divide operators into frontrunners, middle runners and stragglers, criteria have been specified to measure the operator's environmental performance. These criteria have been incorporated into a points system with a certain number of points deducted per violation from the initially allotted amount. The rating is updated annually.

For the implementation of this compliance monitoring strategy, a basic number of inspection hours is specified for each sector. This number is directly applicable to the middle runners. It is halved for frontrunners, with the difference increasing the number of inspection hours for stragglers.

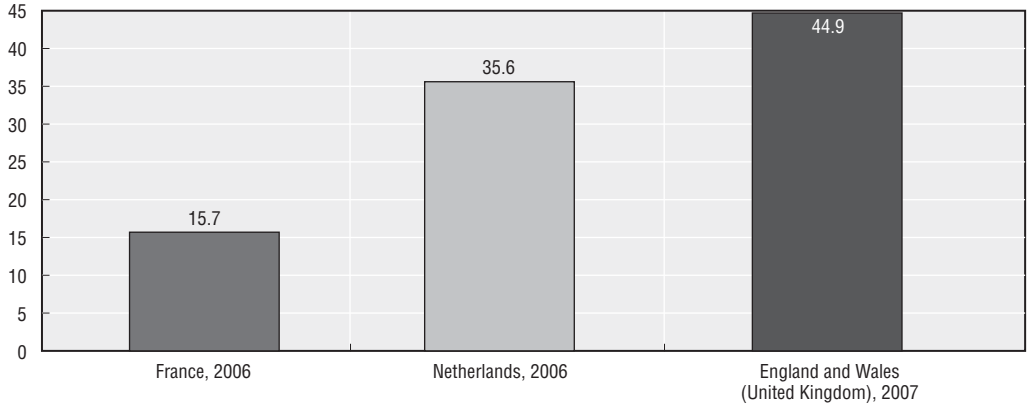
Source: DCMR (2008).

ensure its buy-in. This is particularly important as some operators may become subject to greater regulatory burdens as a result.

Since the purpose of targeting compliance monitoring activities is to be more efficient in detecting non-compliance, it is interesting to look at how the targeting affects the discovery of violations in practice. Figure 4.3 compares the numbers of discovered offences per hundred cross-media inspections in France,[5] the Netherlands, and England and Wales. Given the highest rate of non-compliance detection in England and Wales, it seems logical to conclude that the British practice of inspection targeting is presently more effective at identifying non-compliance than in the other two countries.

The trend of risk-based targeting of compliance monitoring is also emerging in China, where inspection priorities are increasingly defined based on industry size and its potential adverse environmental impact. However, Russia's Federal Law "On the Protection of Rights of Legal Entities and Individual Entrepreneurs during State Control/Supervision" (2001) forbade authorities to conduct inspections more frequently than once every two years and mandated that they always be announced. A possibility is even being discussed to completely shield small businesses from any inspections not sanctioned by a prosecutor or a court. This restrictive practice, triggered by pressure from industry to reduce administrative burden on

Figure 4.3. **Number of Discovered Offences per 100 Integrated Inspections**



Sources: Ministry of Sustainable Development, France (2008); National Environmental Enforcement Coordination Secretariat, the Netherlands (2007); Environment Agency, England and Wales (2008).

the regulated community and corruption among government officials, runs contrary to the risk-based targeting approach.

4.4. Self-monitoring

Although regulatory agencies have historically undertaken compliance monitoring, it is a growing practice to require operators to track and report data on their environmental performance. The emphasis on self-monitoring and self-reporting is regarded as a possible means of substituting government compliance monitoring efforts by passing some of the monitoring responsibility and cost on to the firm without decreasing deterrence. It allows the competent authority to reduce the frequency and sometimes duration of inspections and increase their efficiency (assuming that related cost reductions would not be overweighed by costs of processing and verifying operator reports). Self-monitoring also gives industry more ownership of compliance.

In some of the studied countries (*e.g.* in Finland and the UK), self-monitoring and reporting requirements of different complexity cover practically all installations regulated by environmental authorities. In others, smaller installations, particularly those regulated by general binding rules, do not have such requirements but must still report to the authorities without delay all exceedances of short-term emission limits, breakdowns, spills, or other incidents. In countries like the Netherlands, self-monitoring results cannot be used for enforcement purposes, and inspectors must collect their own data to identify violations. However, there is a strong trend everywhere to reduce the volume of discharge monitoring by inspectorates and rely more on self-monitoring.

Self-monitoring is done either by operators themselves or is outsourced to third parties with appropriate accreditation. The frequency of emissions monitoring (usually defined in the permitting documentation) depends on the sampling methods and priority of individual parameters and varies widely from continuous to monthly to once in several years. Indirect monitoring using emission factors is also widely practised. Competent authorities produce guidance documents for operators which describe sampling and analysis methodologies, provide emission factors and other supporting material for the evaluation of emissions, and explain appropriate data management and reporting practices.

A requirement for operators to conduct self-monitoring raises the issue of reliability of its results. Their verification by the competent authority includes the *certification of an operator's self-monitoring system* itself and the *scrutiny of self-monitoring reports*.

In Finland, when the competent authority issues a new permit, it inspects the operator's self-monitoring system itself or uses third-party auditors to do so. In addition, the environmental authorities encourage operators to incorporate self-monitoring arrangements into their quality and environmental management systems so that they undergo third-party audits.

In England and Wales, the Environment Agency sets self-monitoring standards under its Monitoring Certification Scheme (MCERTS) for all regulatory regimes where self-monitoring is required. The Environment Agency also has an Operator Monitoring Assessment Scheme to strengthen its auditing of operators' self-monitoring arrangements. The audits assess four aspects of monitoring carried out by an operator or its contractor:

- Management, training and competence of personnel;
- Suitability of monitoring methods;
- Maintenance and calibration of monitoring equipment; and
- Quality assurance of monitoring, *e.g.* the use of MCERTS for equipment and services.

The verification of reported self-monitoring data is generally done through regulatory sampling during site visits as well as via desk reviews. In the UK, the agency monitoring covers on average between 5% and 10% of installations, but poor operator compliance history may lead to an increase in the level of regulatory sampling. Competent authorities usually take enforcement actions (including stiff monetary penalties) against operators who fail to file appropriate monitoring information. For example, in the US penalties for filing false or inaccurate data are very severe and can even result in criminal actions.

Self-monitoring and reporting can impose significant costs on businesses and on regulators. These are mostly recurrent costs, although start-up costs may also be significant. It is important that the requirements (parameters to be monitored and the mode and frequency of reporting) adequately reflect the nature of the operator's activity and the regulator's needs. There are many initiatives to eliminate unnecessary monitoring and reporting. In 2005, the US EPA introduced a rule change in the Toxics Reporting Inventory programme that shortened the reporting forms and eliminated the requirement to report on a number of listed substances. This change, opposed by some community groups, was expected to save businesses 165 000 hours of administrative work, although the EPA did not quantify this in monetary terms.

The submission of self-monitoring reports is increasingly done electronically. The development of electronic tools makes the delivery of information from operators easier and facilitates data processing. It also helps manage facility-specific information and provide it to other stakeholders, including the public.

Notes

1. Still, the state needs to provide the EPA with the number of medium-specific inspections under the general reporting requirements.
2. In the EU, targeting of compliance assurance is an integral component of better regulation initiatives.

3. Dutch municipalities use much simpler guidance which divides installations into five categories based on their environmental impact and recommends respective inspection frequencies.
4. The VROM Inspectorate is currently planning to implement "Doing the Right Things" – step-by-step guidance for environmental inspection planning developed under the aegis of the IMPEL network.
5. The French inspection services do not record minor violations for which the compliance order (*mise en demeure*) procedure is not initiated. The definition of an offence may also differ between the countries.

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PART I

Chapter 5

Non-compliance Response

Environmental non-compliance response comprises any actions taken by the competent government authority alone or in co-operation with other institutions to correct or halt behaviour that fails to comply with environmental regulatory requirements. Non-compliance responses may be designed to perform one or more functions, such as:

- Return the violator to compliance;
- Correct internal company management problems which may result (or have resulted) in negative environmental impacts;
- Impose a sanction to punish the violator while also deterring others;
- Remove the economic benefit of non-compliance; or
- Correct environmental damages.

The common classification of non-compliance responses is based on the different branches of law authorising each measure (*i.e.* the type of liability): *administrative, civil, and criminal*. Administrative measures are applied by a government agency while civil and criminal measures are imposed, respectively, by civil and criminal courts and are sometimes referred to as judicial response.[1] The general purpose of administrative enforcement is to restore compliance. Civil enforcement generally addresses damage caused to persons or property (as explained in Section 5.3, civil judicial enforcement in the US is intended to punish and deter and does not seek compensation for private parties). Criminal enforcement seeks penalties (that may include prison time for individuals) for egregious unlawful behaviour.

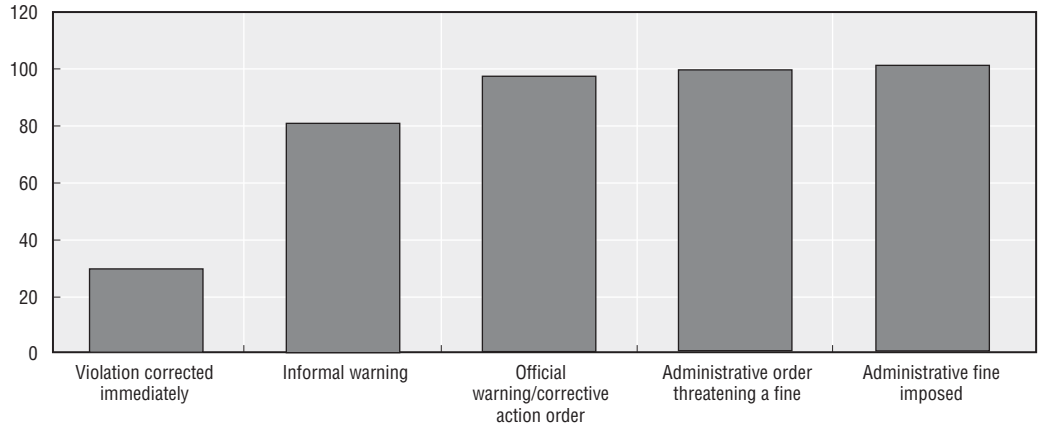
This chapter addresses the hierarchy of these categories of instruments and the choice between them before looking at the use of particular tools within each category in the studied countries. Separate sections analyse best practices in the assessment of administrative and judicial monetary penalties and the role of the public in environmental enforcement.

5.1. Enforcement Pyramid and the Choice of Response

Despite the different enforcement traditions in the studied countries, non-compliance everywhere is based on a so-called *enforcement pyramid* which includes administrative and criminal measures, complemented by civil measures. Once an offence is detected, the enforcement response might begin with the provision of an informal warning and directions for corrective actions, move to the issuing of administrative notices and penalties, and then proceed to prosecution with increasingly serious consequences.

The hierarchy of non-compliance responses offers a good way of achieving an optimum mix of deterrence, persuasion and coercion. Its effective application presumes that enforcement authorities are prepared to escalate sanctions where soft restorative action fails to achieve compliance, and that penalties at the top of the enforcement pyramid are sufficiently serious and effective to deter the possible offender. Figure 5.1 shows that about 80% of all violations in the Netherlands are corrected without use of any formal actions by the competent authority, while fines are imposed only in a very small fraction of cases.

Figure 5.1. **Escalating Use of Administrative Enforcement Actions in the Netherlands**



Source: 2006 Annual Report, National Environmental Enforcement Coordination Secretariat, the Netherlands.

Enforcement authorities in the different countries have different possible enforcement tools available from the stage of informal warnings to the criminal enforcement. In the UK and Japan, administrative action is limited to the adoption of warnings and notices, and if the wrongdoer does not comply with these notices, the only possibility in the hands of the competent authority is to refer the case for prosecution. In other countries, the overall enforcement toolkit is more flexible, and competent authorities have powers to impose administrative sanctions and resort to criminal prosecution only in the most serious cases.

Normally, competent authorities have enforcement policies or guidelines describing how to treat violations and what actions should be taken. For example, the US EPA's Enforcement Response Policies developed for each relevant statute differentiate between significant non-compliers and secondary violators. Significant non-compliers are those violators that have caused actual or likely exposure to hazardous pollutants, are chronic or recalcitrant violators, or deviate substantially from the terms of a permit or another regulatory requirement. Significant non-compliance warrants an administrative or judicial action that results in an enforceable agreement or order and imposes sanctions. A secondary violation is addressed most often through an informal enforcement response that notifies the violator of its non-compliance. If the violator does not come into compliance within a set period of time, coercive actions are taken.

Administrative enforcement is almost always the authority's first choice response. Criminal enforcement is generally reserved for violations that deserve punishment in addition to, or rather than, correction (*e.g.* where the violation is intentional). Criminal enforcement actions are also used to ensure the integrity of the regulatory scheme, *e.g.* to prevent facilities from operating without a permit or licence. In addition to these considerations, enforcement authorities also consider the following when choosing the type of enforcement instrument:

- *Cost:* administrative proceedings are generally less taxing on enforcement resources in terms of time, money and personnel.
- *Resistance:* criminal cases evoke much stronger resistance from the regulated community than administrative ones; and

- *Control:* enforcement authorities have much more control over administrative proceedings than over criminal ones.

Notwithstanding these considerations, in many of the studied countries (*e.g.* the Netherlands, France, and Finland), administrative and criminal enforcement (where warranted) go in parallel. The environmental authorities in these countries refer potential criminal cases to the police or a public prosecutor and continue administrative proceedings. As discussed in Section 5.4, environmental agencies in those circumstances have little control over the prosecutor's decision on whether or not to pursue a case and bring it to a criminal court.

Just as important as achieving the balance between administrative and criminal enforcement is the balance between any enforcement and no enforcement. Condoning (or tolerance), which is an act by the competent authority to tolerate a known violation, is also a possible response, although not every legal regime allows its application. Active condoning (amnesty) means that the competent authority explicitly makes clear in writing to the offender that no enforcement action will be taken against a certain breach of law. Active condoning is allowed only under strict conditions and usually includes a requirement to cease non-compliance within a certain period of time and/or take specified actions.

In the Netherlands, tolerance is only acceptable in situations of *force majeure*, in a transitional stage for a limited period (*e.g.* when a forthcoming regulation would permit the activity in question), or if strict enforcement would lead to a situation harmful for the environment (*e.g.* ceasing waste processing activities when the permit has not yet been delivered). In practice, tolerated are mostly offences that can be quickly legalised, and interim conditions are often attached. If the conditions are not met by the operator, enforcement measures are taken. In the US, without tolerating violations, penalty relief may be granted under the Audit Policy for violations discovered, promptly disclosed, and corrected by the operator.

5.2. Administrative Enforcement

In recent years, administrative measures have become the preferred tool to enforce environmental legislation. There are different reasons for this. Administrative enforcement is faster and cheaper than going through the courts. In many countries, administrative enforcement offers the government a wider range of instruments to deal with violations compared with the other enforcement responses.

The UK represents the most pronounced example of the increasing emphasis on administrative enforcement. The 2006 UK government-commissioned report "Regulatory Justice: Making Sanctions Effective" (also known as the Macrory Report) proposed the introduction of administrative[2] monetary sanctions as an alternative to prosecution. The Regulatory Enforcement and Sanctions Act of 2008 gave regulatory agencies a right to impose monetary penalties and certain discretion to determine their size. Those sanctions will be introduced through further regulations. The Defra-led Review of Enforcement in Environmental Regulation (2006) concluded that variable administrative monetary penalties would allow for decriminalisation of less serious violations and create a new and fairer balance with the use of criminal prosecution and improve the effectiveness of enforcement.

The Macrory Report also set out a number of clear principles and characteristics for administrative enforcement (see Box 5.1), which have been incorporated into the UK Regulators' Compliance Code.

Box 5.1. **Key Principles of Administrative Enforcement Endorsed by the UK Government**

Regulators should:

- Publish an enforcement policy;
- Measure outcomes, not just outputs;
- Justify their choice of enforcement actions to stakeholders;
- Follow up enforcement actions where appropriate;
- Enforce in a transparent manner;
- Be transparent in the way in which they apply and determine administrative penalties; and
- Avoid perverse incentives that might influence the choice of sanctioning response.

A sanction should:

- Aim to change the behaviour of the offender;
- Aim to eliminate any financial gain or benefit from non-compliance;
- Be responsive and consider what is appropriate for the particular offender and regulatory issue;
- Be proportionate to the nature of the offence and the harm caused;
- Aim to restore the harm caused by regulatory non-compliance, where appropriate; and
- Aim to deter future non-compliance.

Source: "Regulatory Justice: Making Sanctions Effective", Final Report (November 2006).

In light of these principles, this section will touch upon different aspects of administrative enforcement in the studied countries. It will cover the countries' experience of non-repressive response to violations and the use of a variety of sanctions. The issue of an agency's discretion in applying sanctions and resolving eventual disputes is given special attention.

Non-repressive response

Non-repressive measures aim at restoring compliance in a given situation without applying sanctions. They include informal measures such as verbal warning, advice, and guidance as well as formal actions such as statutory notices and orders. Statutory notices can adopt different names (*e.g.* compliance, improvement, prohibition, variation notices, etc.) depending on the competent authority's request and their objectives, but essentially a notice requires a business to do or refrain from doing certain things.

The extent of the use of non-repressive response to environmental offences as a prior step to the imposition of sanctions is to a large degree a function of the country's compliance culture. In consensual compliance cultures (*e.g.* in Japan and Finland), competent authorities are likely to give the offender ample opportunity to correct the violation before considering stiffer actions.

Administrative actions in Japan are designed to guide or order operators to comply with the requirements, but not to impose penalties. Competent local governments promote regulatory compliance by businesses mainly through inspections and by issuing *administrativeguidance* based on inspection results. Most businesses actually take steps to comply with the guidance: the intervention of the authorities is already considered as a

sanction, and the potential loss of reputation for Japanese companies is likely a more important deterrent than in other countries. Stricter enforcement measures are imposed only if the emission/effluent limits are exceeded significantly or repeatedly. For example, in FY 2005, after 17 984 site inspections at "soot and smoke emitting installations", administrative guidance was issued for 405 of them, an improvement order was issued in one case, and no penalties were imposed.[3]

Likewise, in Finland, if a violation is discovered, the operator is allowed (sometimes during the inspection itself) to present a *plan of corrective actions* to return to compliance. If the operator fails to present a compliance plan or its actions are judged inadequate by the competent authority, then the latter issues a compliance notice. In practice, compliance notices are used very rarely: in 2006, corrective actions were agreed as a result of 16.8% of all inspections by the Regional Environmental Centres, and compliance notices were issued in 3.3% of the cases.[4] Even when a compliance notice is used, it is regarded as a sanction in itself (as it is disclosed to the public) and rarely imposes penalties.

Non-repressive response is also quite effective in countries that put significant emphasis on enforcement. Upon detection of a violation in the Netherlands, the competent authority would most often issue an informal verbal warning. A verbal warning may be given on-site by an inspector or by a phone call from the office that a violation has been noted. This can be followed by more informal contacts between the offender and the competent authority before a formal warning is issued prescribing corrective actions and setting a time limit to correct the violation. Sanctions are not imposed if the violation has been corrected in a timely manner, has not been committed deliberately, is clearly an isolated incident, is of limited extent and impact, and has been committed by an operator with an otherwise good compliance record. Sanctions are issued in only about 7% of the cases (see also Figure 5.1). In another example, more than 70% of violations in England and Wales are addressed through persuasion, and less than 20% by administrative enforcement notice (the remaining cases are referred for prosecution).[5]

At the other end of the spectrum, informal or even formal warnings are almost never used in Russia, where competent authorities respond to all identified violations with sanctions. This is primarily due to a culture of non-compliance, the low deterrent effect of the sanctions themselves, which makes offenders complacent about forthcoming penalties, and the opportunities that exist to bribe enforcement officials in order to avoid sanctions.

Administrative sanctions

Administrative sanctions can be generally divided into:

- Monetary penalties (fines);
- Cost recovery for remedial actions; and
- Suspension or closure of operations or other deprivation of rights.

Fines are the most widely used administrative sanctions because they are flexible instruments that normally allow an adequate and proportional response to a violation. They may serve a punitive, coercive, and/or deterrent function. Fines can be fixed or variable, imposed per violation or per day of non-compliance. They can be applied to legal persons (businesses) as well as to individuals, although the rates in the latter case are typically much lower.[6]

Fixed monetary penalties are usually applied with respect to low-level, minor or high-volume instances of non-compliance for relatively low fixed amounts that are imposed directly by the competent authority via a penalty notice. For example, France is planning to introduce administrative fines of up to EUR 1 500, which would effectively transfer minor offences from the criminal to the administrative domain.

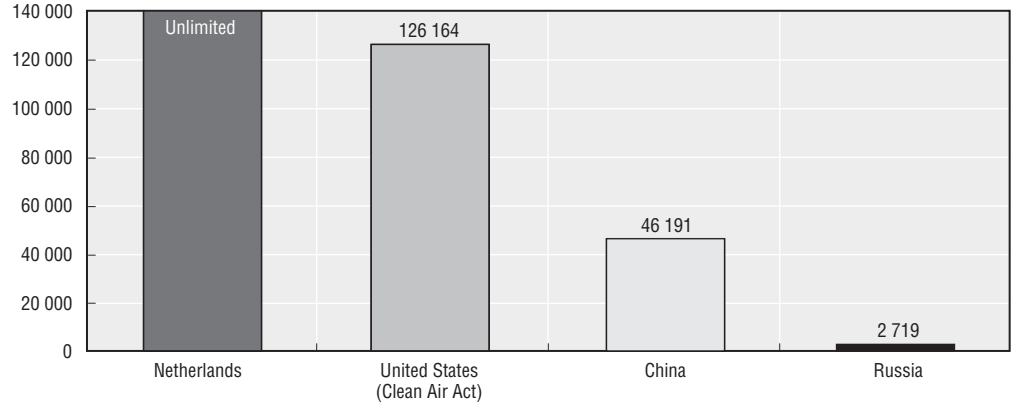
Variable fines are most common, due to their flexibility, with their size determined by the regulator according to a number of factors defined in a penalty guidance (see Section 5.5). Among the studied countries, such fines exist in Finland, the Netherlands, Russia and China, and can now be introduced in the UK under the 2008 Regulatory Enforcement and Sanctions Act.

In most of the studied countries, fines are assessed *per violation*. *Daily fines* are charged for each day when the operator is not in compliance, so the competent authority eventually imposes a lump sum calculated on the basis of the number of days of non-compliance. Daily fines are most prominent in the US but are also used in the Netherlands, where they can be imposed for every day beyond the deadline set for the operator to correct the violation (while in the US they are usually assessed for every day of violation). A daily fine can be constructed as a fixed or a variable daily value.

Variable fines usually have an upper limit specified in the legislation while minimum fines are set much less frequently. Even daily fines are commonly capped by a maximum amount per violation. Figure 5.2 provides an illustration for several countries. Although there are no legal limits for administrative penalties in the Netherlands, Dutch competent authorities usually have guidance documents defining the types of violation, penalty rates per day, and a maximum fine per violation (*e.g.* EUR 50 000 in the Province of Groningen). It is interesting to note that while the Netherlands, with its persuasion-oriented enforcement policies, has comparatively high penalty rates as a deterrent, the low fines in Russia, where enforcement is heavily biased toward sanctions, indicate the low effectiveness of non-compliance response in that country.

Figure 5.2. **Maximum Possible Administrative Fines for Legal Persons per Offence**

Euros



Source: Country interviews, 2007-2008.

The average administrative fines actually imposed are also quite illustrative. While the average US EPA Final Administrative Order settlement in FY 2006 carried a penalty of USD 9 000 (5 730 EUR), the average fine in China in 2004 was only CNY 575 (or 53 EUR).

Although both figures are very far from the legal upper limits, they account for 4.5% of the maximum in the US and just one-tenth of 1% of China's upper limit. It is, therefore, doubtful that administrative fines in China have any significant impact on compliance.

Administrative fines can also be conditional, *i.e.* explicitly attached to non-compliance with an order prescribing corrective actions, making them not only a penalty but a *coercive instrument*. This approach is widely used in the Netherlands. Coercive administrative sanctions are also commonly used in France, where practically all corrective action orders are accompanied by an order of deposit (*consignation*) of a sum of money with a public accounting office as a guarantee against completion of the prescribed measures. The guarantee deposit is reimbursed, often in stages, upon verification of compliance or forfeited by the state (as a kind of a fine).

A competent authority can also force an offender to carry out environmental remediation works at its own expense or carry out the cleanup and then *administratively recover the full costs incurred from the responsible party* (in the US, this can be done only through a federal court). For example, with respect to water pollution (*e.g.* a toxic spill), the Environment Agency of England and Wales has a right to invoice the polluter directly and enforce a civil debt in case on non-payment. The competent authority's responsibility for enforcing remediation or undertaking it and recover the costs from the operator is the subject of the 2004 EU Environmental Liability Directive (2004/35/EC). The Directive applies to damage to water resources, land, and habitats and species (it does not cover "traditional damage" – economic loss, personal injury and property damage – which is discussed in Section 5.3). More comprehensive schemes following this Directive are expected to be put in place in all EU member countries in the near future.[7]

Sanctions associated with deprivation of rights may include suspension or shut-down of polluting activities of an installation, revocation of a permit/licence, or closure of an entire installation. A company can also be banned from getting government grants or loans or working on government contracts (called "debarment" in the US). These sanctions can be definitive or temporary, partial or total. They are considered as most severe sanctions that can be imposed, largely due to their potential economic and social implications. In the OECD countries, these sanctions are applied only in special circumstances (*e.g.* high probability of extensive damage to public health or the environment) and for very serious offences. On the other hand, in Russia and China the number of activity suspensions or facility closures is disproportionately high as authorities believe that this is the only sanction that has a strong impact on the regulated community.

Administrative discretion and dispute resolution

Competent authorities usually have considerable discretion in the application of enforcement powers. After issuing a compliance notice, the regulator may negotiate with the operator to agree on measures to return to compliance without applying any further sanctions. Such agreements may take a variety of forms.

In one example, the Dutch Civil Code stipulates the possibility of an agreement whereby a public (usually provincial) authority and an offender agree that the authority will not use (further) administrative sanctions in exchange for a commitment of the offender to return to compliance within a certain period of time. The offender also explicitly agrees *not to exercise its right to appeal* an administrative sanction in the event of failure to correct the violation by the deadline. The agreement may also include a deposit

by the offender of a certain sum of money which is forfeited if the operator does not reverse the offence in time.

The Environment Agency of England and Wales often uses a formal "*caution*" – a written acceptance by a violator that it has committed an offence – as an alternative to prosecution. A caution is an independent sanction, but it may only be used where a prosecution could properly have been brought (it is brought to the court's attention if the violator is convicted of a subsequent offence).

Part of the package of administrative sanctions introduced in the 2008 UK Regulatory Enforcement and Sanctions Act, *enforcement undertakings* are promises made by the violator to the regulator to take specific compliance actions as an alternative to prosecution. A period of negotiation would take place where the regulator either accepts or rejects the proposed actions. If the proposal is rejected, the regulator may choose any sanction available for the original violation. If the proposal is accepted, the enforcement undertakings are formally agreed and monitored by the regulator, and the company would be immune from any sanction for that particular offence unless it fails to comply with the undertakings. *Voluntary undertakings* can also be used to mitigate the level of a variable monetary penalty. For example, in response to an illegal activity, a regulator can impose a monetary penalty which would include capturing the illegal financial gain. The regulator may reduce the size of the penalty if the violator offers an undertaking to remediate damage caused by the offence.

In the US, most federal actions against businesses or individuals for failure to comply with the environmental laws are resolved through settlement agreements, which almost always involve payment of a penalty. About 75% of administrative cases and 90% of civil judicial cases[8] are settled. Each statute has its own written penalty policy for routine settlements. Box 5.2 gives an overview of different US EPA policies for reducing penalties in making such agreements.

The downside of wide administrative discretion is the concern, expressed by industry in the majority of the studied countries, about the consistency of enforcement actions by different offices of the same agency or by local authorities. Particularly cited are referrals for criminal prosecution and response to technical violations that competent authorities may or may not decide to act on. According to the Confederation of British Industry,[9] uneven enforcement undermines the value of environmental regulation in the eyes of business and can affect competitiveness. To address this problem, many authorities (*e.g.* the Environment Agency in the UK) have formed internal panels where enforcement decisions are scrutinised. Also in England, local governments have created a voluntary Link Authority system to engage in industrial sector-specific networking as well as peer review and benchmarking exercises on compliance assurance.

To resolve contentious issues with respect to administrative enforcement, every studied country has procedures for administrative as well as court appeal. Some of the countries have established alternative dispute resolution (ADR) processes to avoid lengthy appeals or litigation. For instance, the Japanese government has created the Environmental Dispute Coordination Commission to settle disputes through facilitation, arbitration, or mediation. The Commission is an independent administrative body which is institutionally separate from the Ministry of the Environment but has only advisory authority.

The US EPA has used ADR in enforcement and compliance activities since 1985 in cases where there is an impasse or potential for impasse in the negotiations, especially if

Box 5.2. **Policies for Penalty Reductions in Enforcement Settlements in the United States**

Supplemental Environmental Projects (SEPs). As part of a settlement, an alleged violator may voluntarily agree to undertake an environmentally beneficial project related to the violation in exchange for mitigation of the penalty to be paid (a ratio may be USD 3 in SEP spending to USD 1 in penalty reduction). A SEP must generate environmental or public health benefits exceeding legal requirements related to the underlying violation, advance at least one objective of the environmental statute that is the basis of the enforcement action, and fall under one of the EPA-defined categories of possible SEPs. Undertaking a SEP may help industry repair its public image tarnished by the violation.

The *Audit Policy* provides for reductions or waivers of penalties to facilities that conduct self-assessment audits, then promptly disclose (within 21 days) and correct (within 60 days) any violations discovered. The reductions typically concern only the gravity-based component of a fine, as it is general EPA policy not to settle for penalties less than the amount of economic benefit of non-compliance (see Section 5.5). However, this policy does not apply to violations that may cause serious environmental harm or present substantial danger to public health or the environment.

The *Small Business Compliance Policy* promotes environmental compliance among small businesses by waiving or reducing the gravity component of penalties whenever a small business makes a good faith compliance effort by voluntarily discovering and promptly disclosing a violation and correcting it within the proper timeframe (180 days for pollution control measures and 360 days for pollution prevention measures).

The *Small Local Governments Compliance* Assistance Policy promotes environmental compliance among small local governments by setting parameters for the identification and correction of environmental violations within which states can reduce or waive the normal non-compliance civil penalties as an incentive to request compliance assistance.

Source: www.epa.gov.

ADR is likely to achieve resource efficiencies for the Agency. ADR methods include mediation and fact-finding by third parties. Typically, the mediation is done by an Administrative Law Judge, an independent officer appointed for life by the EPA Administrator. ADR is selected by the parties in one third of administrative enforcement cases, and the use of ADR leads to early settlement in over two thirds of ADR cases. The EPA feels that using ADR may lower enforcement costs, create more satisfying and enduring solutions, and identify and resolve issues faster.

5.3. Civil Judicial Enforcement

The traditional civil liability is aimed at the compensation of a private party for the damages or injuries caused to persons or property. Civil suits brought by private parties are an extremely important enforcement tool which is present in all the reviewed countries. The US represents a special case, described here separately, where civil judicial enforcement actions can be sought by the government for any breach of law as well as when an operator does not comply with an administrative order. These actions are brought on behalf of the interests of the United States as a whole; they do not seek compensation for specific private parties.

Traditional civil liability and insurance

In many of the OECD countries studied, there is *strict liability* for environmental damage, which does not require proof of negligence or violation of regulatory standards. Going beyond the traditional definition of actual damage, Finland's Environmental Damage Insurance Act created a complementary compensation scheme covering the costs of measures to prevent or limit the damage and to restore the environment to its previous state.

Private party recourse through civil law is commonly available to affected individuals and sometimes to groups via so-called "class action" private party suits, as in the US. Conversely, under the Japanese Civil Procedure Code, class action and third-party lawsuits are not allowed. The use of civil liability claims also varies greatly from country to country. In those with more consensual compliance cultures, such as the Netherlands and Japan, companies are eager to reach a settlement with potential plaintiffs before they file a suit in court.

While civil liability is typically enforced through the courts, Japan and Finland also have non-judicial, government-run compensation schemes. Japan's Law on Compensation and Prevention of Pollution-related Health Damage provides for compensation of damage from air and water pollution, including water contamination with cadmium and mercury (*e.g.* the famous Itai-Itai and Minamata diseases). Once the compensation eligibility is determined by a prefectural government, victims are provided with medical care benefits from a special government fund. Finland has a system for compensating private owners of water bodies for *prospective* damage from water pollution. The amount of compensation and the parties to be compensated are, if applicable, determined during the permitting process and stipulated in the permit itself.

Operators can usually buy *insurance* against damage compensation claims. Environmental insurance systems range from very well developed in the US and Finland to rudimentary in Japan and Russia. In Finland, a complementary environmental damage insurance scheme makes sure that any financial losses incurred can be compensated by insurance companies even where the cause of the damage is unknown, uninsured or unable to pay compensation. The insurance premiums are obligatory for businesses whose activities require an environmental permit or a licence for handling hazardous chemicals. To run this scheme, Finnish insurance companies established the Environmental Insurance Centre which handles all relevant compensation claims.

US civil judicial enforcement

Civil judicial enforcement cases can be brought to a federal court by the US Department of Justice on behalf of the US EPA or to state courts by the State Attorneys General. Judicial rather than administrative enforcement is usually pursued in the following circumstances:

- Against recalcitrant violators;
- In complex cases likely to result in litigation;
- When the size of the estimated fine is expected to exceed the statutory limit applicable to an administrative case;
- When injunctive relief (especially immediate relief) is required;
- If the government wants to create a legal precedent; or
- If administrative enforcement case has not achieved compliance.

Civil judicial enforcement actions usually result in injunctive relief (measures to be undertaken by the violator with its own means) and penalties (fines). In most instances, there is little or no difference between the maximum size of daily administrative and civil judicial penalties stipulated under the environmental statutes. However, the total penalty value per administrative enforcement case is limited under some statutes (*e.g.* the Clean Water Act), meaning that cases under these statutes that involve potentially large penalties have to be pursued through civil judicial actions.

As with administrative enforcement, settlements are also possible in civil judicial cases. They are reached between the Agency and the violator and are brought before a judge for validation by a consent decree. Under a consent decree there may be conditional ("stipulated") penalties that are imposed if the operator fails to comply with prescribed measures. Box 5.3 contains a prominent example of a civil judicial settlement.

Box 5.3. **Example of a Civil Judicial Case Settlement: American Electric Power**

In the largest environmental settlement in Justice Department history, American Electric Power has agreed to install USD 4.6 billion in equipment to sharply reduce emissions at coal-fired power plants in five states. AEP, one of the country's largest power producers, owns coal-fired plants in the Ohio River Valley. In November 1999, the Justice Department filed the landmark lawsuits against the power companies alleging they violated the Clean Air Act by making major modifications to many of their plants without installing the equipment required to control smog, acid rain and soot. Legal battles and negotiations between federal prosecutors and industry representatives continued for almost seven years. The settlement requires AEP to pay a USD 15 million civil fine to the federal government and spend USD 60 million on "mitigation measures" like cleanup and repair of damaged lands. The company will also be required to reduce nitrogen oxide by 69% within nine years and sulfur dioxide by 70% within 11 years.

Source: CNN (9 October 2007).

There are roughly 1 700-2 000 administrative cases and 150-175 civil judicial cases handled by the US EPA per year, but judicial cases take about 50% of the Agency's enforcement resources. Importantly, industry generally prefers administrative actions because of their lower procedural costs, lower penalties, and less damage to the corporate image.

5.4. Criminal Enforcement

Criminal enforcement is usually the action of last resort taken only in response to very serious cases or where administrative law has not been sufficient to ensure compliance. In the former case, wilful or negligent unlawful behaviour is the main characteristic of criminal culpability; in the latter, non-compliance with administrative enforcement measures is regarded as a crime.[10] Criminal offences are generally related to serious damage to, or endangerment of, human health or the environment, but they can also be "technical", such as operation without a permit.[11] For example, according to the Dutch National Criminal Sanctions Strategy, criminal environmental enforcement can be initiated against a juridical or a physical person in cases of:

- Violation of "core" licence conditions;
- Repeated or intentional violations;

- Environmental pollution causing danger to public health;
- Deliberate operation without an environmental licence; or
- Obstruction of inspection by competent authorities.

Frequently, the investigations of environmental crimes uncover other crimes, such as lying to the government, fraud or conspiracy, resulting in additional penalties. However, in countries with high compliance cultures such as Finland and Japan criminal environmental offences are very rare and prosecution cases are exceptional, occurring less than once a year in most jurisdictions.

Criminal enforcement actions can be taken against a company and/or its officers, the latter only if it can be shown that the violation was committed with their consent or due to their neglect. In Japan and the US, it is possible to accumulate criminal liability of a corporation and that of an individual (who can be a manager but also an employee). Criminal sanctions represent both punishment and deterrence, as they have a major impact on the reputation of the convicted party. At the same time, the burden of proof in criminal cases is "beyond reasonable doubt" – much heavier than with other types of enforcement.

Criminal environmental enforcement is usually initiated by a competent authority or the police by way of a referral to a public prosecutor. In England and Wales (but not in Scotland and Northern Ireland), the Environment Agency or a local authority can prosecute criminal cases directly. As mentioned earlier, criminal prosecution is most often launched in parallel with administrative actions. Some environmental authorities (*e.g.* certain DRIREs in France) have policies to issue statements of criminal offence in every case of non-compliance with a compliance notice while others refer only the most important cases to the prosecutor's office.

The prosecutor's office commonly decides whether to file the case in court. In some of the countries (*e.g.* the Netherlands), a public prosecutor may send a warning letter to the offender before deciding to make a criminal indictment, and can even propose a settlement to the offender in exchange for a payment of a significant fine. Other factors typically affecting prosecutors' indictment decisions are the firmness of evidence and the likelihood of the case's success. The lack of evidence sufficient for criminal prosecution in the US would often lead to closure of a criminal case and may result in the opening of a civil case. In France, where the prosecutor is required to pursue the case only if it involves civil responsibility*vis-à-vis* a private party, it is estimated that just about 15% of submissions of a *procès-verbal* lead to actual prosecutions.[12] Similarly, only a quarter of prosecution cases initiated in the Netherlands in 2006 went to court, while 61% were pre-settled through fines out of court, and others were not pursued by the prosecutor's offices.[13]

The co-operation between environmental authorities and public prosecutors is a pivotal issue in many of the studied countries. Many agencies consider it important to establish close contacts with prosecutors to make sure enforcement is actually pursued. However, the situation may differ dramatically from region to region within a country. Some DRIREs in France have good working relations with the prosecutors' offices and are regularly informed of the prosecution follow-up whereas in other regions DRIREs have no influence on the prosecutors' decisions and are not even informed of them. The lack of feedback from prosecutors was also mentioned by certain Dutch provincial and municipal authorities as a source of frustration, but at the same time DCMR in the Rotterdam-Rijnmond region has an agreement with the regional police force and the prosecutor's office on the follow-up on environmental crime cases. As a result, there is generally little

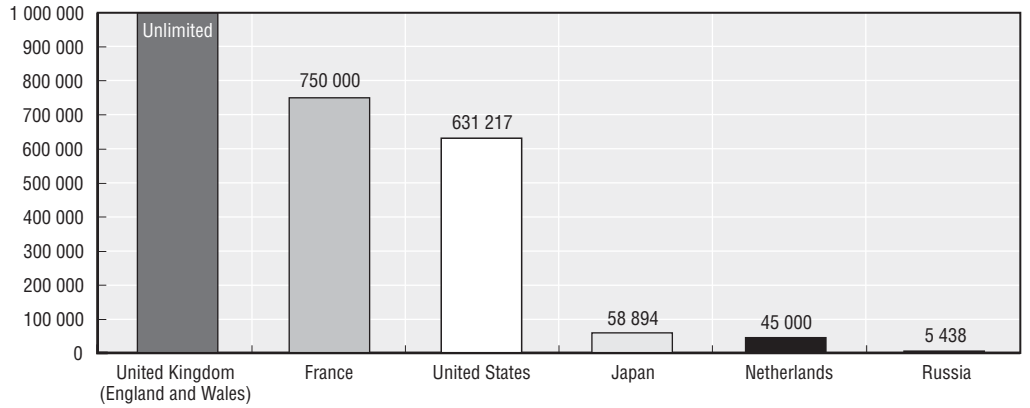
consistency across jurisdictions in criminal prosecution of environmental offences. In addition, very few of the studied countries have developed systems for tracking outcomes of criminal enforcement actions (such a system exists at the federal level in the US, but not in most states).

Criminal sanctions include fines and deprivation of rights (similarly to administrative ones), but also imprisonment which can be imposed only by criminal courts. Figures 5.3 and 5.4 demonstrate the maximum monetary criminal penalties and prison terms in most of the reviewed countries.

Figure 5.3 represents the stark difference between the maximum possible criminal fines per offence in the UK, France and the US on the one hand and Japan and the Netherlands on the other (both administrative and criminal fines are very low in Russia). However, while criminal fines in England are legally unlimited, the maximum fine adjudicated since 2002 was 240 000 (about EUR 300 000) while the average criminal fine was just GBP 8 190 (about EUR 10 300). In comparison, the average criminal fine in the US was USD 279 000 (EUR 178 000) in FY 2007. Whereas in the Netherlands criminal fines are used for about 20% of environmental offences (even though their rates are rather low), such penalties are hardly ever applied in Japan.

Figure 5.3. **Maximum Possible Criminal Fines for Legal Persons per Offence**

Euros

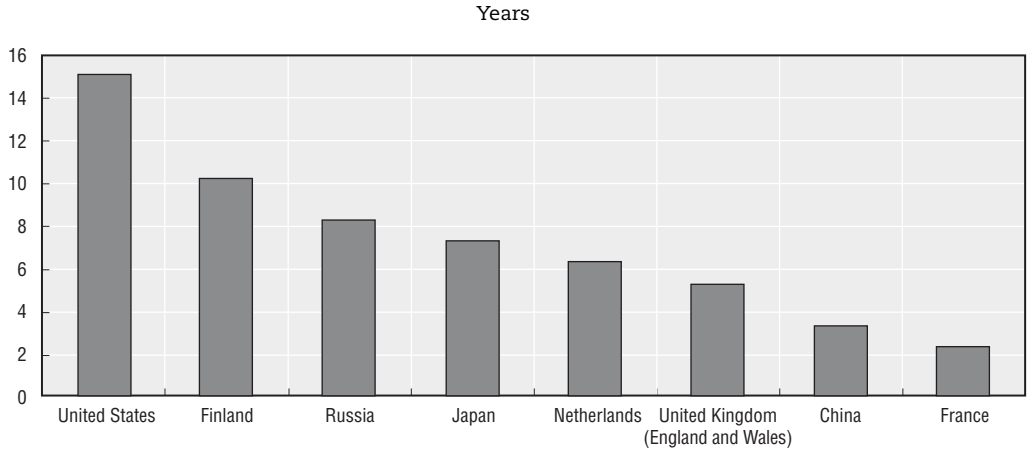


Source: Country interviews, 2007-2008.

In the same way, the information on the actual use of imprisonment in criminal environmental enforcement would provide a better perspective on this instrument than the legally stipulated maximum prison terms (shown on Figure 5.4). While the possibility to impose severe sanctions for environmental crimes testifies to a country's willingness to use criminal enforcement as a deterrent, it says little about their application. For example, in England and Wales prison sentences are handed down in less than 1% of prosecution cases. The situation is similar in all the other countries except the US, where the number of years of incarceration imposed for federally prosecuted environmental crimes was 186 in FY 2005 and 154 in FY 2006.

The general trend which can be observed in criminal enforcement is the expansion of prosecution from straightforward actions against some form of cheating (operating without a permit or falsifying self-reporting) to more complex actions against repetitive

Figure 5.4. **Maximum Possible Imprisonment per Offence**



Source: Country interviews, 2007-2008.

violators. However, the effectiveness of criminal enforcement varies widely between the countries. In the US, criminal enforcement is a very high priority for the EPA, and federal criminal cases have an almost absolute conviction rate – around 98% nationally and close to 100% in some EPA Regions. It is also 99% in England and Wales. On the other hand, in France, although the stringency of criminal penalties for environmental offences has increased over the years and the number of prosecution submissions is growing, actual criminal penalties are seldom applied. The latter is primarily due to the frequent lack of accurate and complete data to support criminal enforcement and the low priority of environmental cases for prosecutors. Poorly written permit conditions were also cited among the causes of unsuccessful prosecution in several countries.

5.5. Penalty Assessment

There are two principal approaches with regard to establishing the level of a variable administrative fine (or a civil penalty in the US) or a criminal penalty. In some systems, the legislation lists a range of elements to be taken into account by an agency or a court when fixing the penalty. In other cases, the government has developed detailed guidelines for application of penalties.

Russia represents a good example of the former approach: the exact amount of administrative monetary penalty is determined by the competent authority within the limits defined for each category of offences in the Administrative Code. The US legislation uses gravity of an offence as a criterion to grade criminal violations and respective culpability. Under the Clean Water Act, "negligent" violations can lead to a fine of up to USD 25 000 (now adjusted for inflation) per day of violation and/or up to one year in prison. "Knowing" violations can result in a fine of up to USD 50 000 per day of violation and/or three years in prison. Finally, violations of "knowing endangerment" of public health or the environment are punishable by fines of up to USD 250 000 and 15 years in prison for individuals, or up to USD 1 000 000 for corporations. Upon a second conviction, the relevant fine and prison term maximums double.

In England and Wales, on the other hand, the legislation only sets a maximum level of criminal fines in lower, Magistrates' courts while fines in a higher Crown Court are unlimited. There is Sentencing Guidance for judges on how to approach sentencing for environmental

offences. This Guidance is not prescriptive but indicates the factors which should be taken into account. They include:

- Liability related criteria (culpability of the offender);
- The potential risk brought about by an offence;
- The offender's ability to pay (facility closure should be avoided where possible);
- The overall deterrence effect of the sentence (fines on companies should be large enough to make an impact also on shareholders);
- The offender's cooperativeness; and
- Prosecution costs.

Whereas the Environment Agency of England and Wales occasionally attempts, where evidence is available on the point, to measure the economic gain from non-compliance and present it as evidence to the court, in the US the economic benefit assessment is fundamental to the calculation of administrative and civil judicial penalties. (In the Netherlands, an offender's financial benefit from continuing the violation may also be taken into account in determining the size of a fine.) Box 5.4 outlines how this and other factors, such as the gravity of a violation, are taken into account by the US EPA in calculating administrative and civil judicial penalties.

The economic factor is also sometimes used in the US in criminal enforcement. Under the Alternative Fines Act, US enforcement agencies have the option of seeking, instead of statutory maximums provided by the environmental statutes and the generic criminal laws, fines of up to twice the profits realised by a company as a result of non-compliance and/or twice the harm caused to injured parties as a result of the company's non-compliance.

Both in the US and the UK, the violator's ability to pay is taken into consideration when determining a sanction. However, the burden of proof of inability to pay is always on the firm. In the US, when a violator fails to provide sufficient information for demonstrating inability to pay, this factor should be disregarded in adjusting the penalty. Comparably, the UK enforcement approach foresees that a company not producing its accounts can be assumed by the court to be able to pay whatever fine the court imposes.

Overall, in every country reviewed, with the exception of the US, many government officials and non-government experts feel that although penalties are often effective in stopping unlawful behaviour, they do not act as a major deterrent, not being high enough to outweigh the economic benefit of non-compliance or delayed compliance. This is why the current trend, at least in the OECD countries, is to increase the proportionality of monetary penalties by linking them closer to the financial benefits to the violator arising from non-compliance.

5.6. Citizen Enforcement

Citizen enforcement usually means the pressure exerted by citizens on government agencies, through complaints or in court, to enforce regulatory requirements. It does not cover civil liability cases when individuals or groups of citizens are direct victims of pollution.

In some countries (*e.g.* in Finland, China and Russia), citizens have direct access to courts only if they are direct victims. In other cases, they have to complain to environmental authorities. On the other hand, in the United States, most major environmental statutes include provisions which allow private citizens to bring suits to enforce federal environmental laws.

Box 5.4. **Administrative and Civil Judicial Penalty Assessment in the United States**

In its Enforcement Response Policies, the US EPA sets goals for penalty assessment: deterrence, fair and equitable treatment of the regulated community, and swift resolution of environmental problems. The development of a penalty figure is a two-step process. First, a "preliminary deterrence figure" is calculated, composed of the economic benefit component (assessment of benefits resulting from failure to comply with the law) and the gravity component (an additional amount which reflects the seriousness of the violation).

The EPA has a number of methods to calculate benefits of non-compliance for the assessment of civil penalties, including benefits from delayed and/or avoided costs of compliance and benefits from illegal competitive advantage (*e.g.* from selling banned products).

In calculating the gravity component (using monetary ranges), the EPA takes into account:

- Actual or possible harm (amount and toxicity of the pollutant, sensitivity of the environment, and duration of the violation);
- Importance of the violation to the regulatory regime, without regard to environmental harm; and
- The size of the violator (in terms of net worth or net current assets).

The second step is to adjust the preliminary deterrence figure through a number of factors, including the degree of wilfulness or negligence, history of non-compliance, ability to pay, degree of co operation with the agency, and other unique factors specific to the violator or the case.

Several enforcement economic models are used to analyse the financial aspects of enforcement actions. Five models are currently available:

- BEN – calculates a violator's economic savings from delaying or avoiding pollution control expenditures;
- PROJECT – calculates the real cost to a defendant of a proposed supplemental environmental project (and a corresponding penalty reduction, see Section 5.2);
- ABEL – evaluates a company's ability to afford compliance costs, cleanup costs, or penalties;
- INDIPAY – evaluates an individual's ability to afford compliance costs, cleanup costs, or penalties; and
- MUNIPAY – evaluates a municipality's ability to afford compliance costs, cleanup costs, or penalties.

In both administrative and civil judicial cases, the government seeks a high or maximum penalty amount while setting an internal, lower penalty target figure as a bottom-line goal at the outset of settlement negotiations. If a settlement is reached, the penalty is usually a number in between, and adjustments can be made for "alternative payments" (*e.g.* recalling a product found to be in violation) and pre-settlement corrective actions by the violator. However, if the matter proceeds to litigation, the government seeks a higher or maximum penalty.

Source: www.epa.gov/compliance/civil.

For example, the US Clean Water Act allows any person "having an interest which is or may be adversely affected" to start a civil action against any person for violation of any effluent standard, limitation or order. This citizen suit provision has been frequently used by citizen groups, particularly in actions against dischargers for violations of wastewater discharge permits (although difficulties with raising money for attorneys' fees limit the number of citizen suits). The role of these citizen suit provisions is to supplement government action. A citizen suit requires a notice from a plaintiff to the defendant and the respective environmental agency, and if the agency does not take action within a period defined by the statute (60 or 90 days), the suit may proceed. The EPA or a state agency may be party to the litigation or just submit an information brief to the court.

In the Netherlands, the public has even wider possibilities to intervene in environmental enforcement. Citizens and NGOs on their behalf can take actions if competent authorities do not adequately enforce environmental requirements. First, they can petition the authority and, if that is not enough, can file a case against the authority in an administrative court. A competent authority's "tolerance" (non-enforcement) decisions (see Section 5.1) can also be appealed in an administrative court. National Dutch NGOs such as *Natuur en Milieu* also put pressure on competent authorities through direct mailings encouraging them to do a better enforcement job. Furthermore, for criminal enforcement, citizens can contact the police, or an NGO can go directly to a public prosecutor. If a prosecutor decides not to pursue the case, a suit against the violator can be filed in a criminal court. In some cases, NGOs pursue the administrative and criminal routes at the same time. Civil action, on the other hand, is resorted to less often because it is perceived as expensive and time-consuming.

In the past, the Dutch environment ministry used to cover the costs of legal environmental advisors to citizens and local NGOs which were employed by so-called "social law firms". Now a citizen who cannot afford legal assistance on an environmental matter can send a request for financial support to the Council of Legal Assistance. An Environmental Legal Assistance Foundation was recently created to direct citizens to appropriate lawyers.

There are numerous benefits to providing opportunities for the public to participate in environmental enforcement. First, local citizens directly affected by a violation are often better positioned to detect and evaluate the impact of the violation on the environment and their community. Citizen enforcement also saves resources for enforcement authorities and reinforces the government's position against sometimes powerful political influence of offenders.

Notes

1. In the US, civil enforcement is understood to comprise civil administrative response and civil judicial response. To avoid confusion, this report refers to these two categories as administrative and civil judicial enforcement.
2. Monetary penalties that can be imposed by a regulator are referred to as "civil" in the UK.
3. Ministry of the Environment of Japan, responses to the OECD questionnaire, 2007.
4. Ministry of the Environment of Finland, 2007.
5. Environment Agency, 2007.
6. In Russia, administrative fines for individuals are distinguished from higher ones for officials of legal entities.
7. The deadline for transposition of the Environmental Liability Directive into national legislation was 30 April 2007, and in June 2008 the European Commission decided to bring nine Member

States, including Finland, France and the UK, before the European Court of Justice for their failure to meet this deadline.

8. The procedures for administrative and civil judicial enforcement in the US are similar in principle, the major difference being the involvement of a civil court in the latter.
9. *Feeling the Benefit: Getting Environmental Regulation Right*, CBI Environment Brief, June 2006.
10. However, in the US, non-compliance with an administrative order is generally not regarded as a criminal offence.
11. The 2008 EU Directive "On the Protection of the Environment through Criminal Law" lays a down a minimum list of environmental offences that have to be treated as criminal offences in all EU Member States. It also mandates that legal persons be held liable for criminal environmental offences committed on their behalf.
12. IMPEL Review Initiative: France, 2002.
13. 2006 Annual Report, National Environmental Enforcement Coordination Secretariat, the Netherlands.

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PART I

Chapter 6

Conclusions

This chapter summarises the main trends identified in the analysis of specific elements of environmental compliance assurance programmes in the eight reviewed countries and indicates issues for examination in future studies on this matter.

6.1. Key Trends in Environmental Compliance Assurance

The comparative analysis of the selected compliance assurance systems has revealed a number of significant trends observed in most of the countries.

- *Increased focus of strategic planning and performance assessment on environmental outcomes*. This trend is part of the increasing accountability of environmental enforcement authorities and the shift from output-based to outcome-oriented approaches to compliance assurance. In the Netherlands, the UK, and the US, environmental authorities have developed performance indicators reflecting the reduction of pollution releases and the improvement of environmental quality to complement the traditional measures of agency resource and activity levels. There are efforts in several countries to develop a meaningful definition of compliance rates despite the challenges of their interpretation.
- *Cross-media integration of environmental permitting and compliance monitoring regimes*. This trend is most pronounced in the EU member countries where integrated permitting (along with compliance monitoring) for large industry has been institutionalised with the implementation of the Integrated Pollution Prevention and Control Directive. The Netherlands and the UK pursue even greater permitting integration to apply the holistic approach to pollution minimisation, increase the efficiency of regulation, and lower administrative burden on businesses. The efficiency reasons are also behind multimedia inspections in Russia and China where permitting remains medium-specific. However, the US and Japan, having long-established single-medium regulatory regimes, maintain separate inspection programmes.
- *Growing importance on compliance promotion, especially targeted at small and medium-sized enterprises*. This trend is clearly visible in all the countries, particularly because compliance promotion proves to be an efficient approach to achieving compliance for both businesses receiving assistance and incentives and for regulators saving resources on enforcement. The dissemination of compliance assistance information to the regulated community is getting more and more sophisticated, with an increasing emphasis on web-based tools such as Compliance Assistance Centers in the US and NetRegs in the UK. The expanding disclosure of compliance-related and general environmental information is making public pressure an important compliance incentive for businesses. The burgeoning environmental performance rating schemes in China show that information-based instruments can be effective where environmental authorities cannot afford more resource-intensive compliance assistance tools.
- *Risk-based targeting of compliance monitoring*. Targeting of inspections on facilities engaged in activities with a potentially higher impact on the environment or with poor compliance records allows competent authorities to increase the efficiency of compliance assurance and

reduce the unnecessary administrative burden on other regulated businesses. This trend is present in almost all the reviewed countries, although the targeting approaches vary from defining risk-based categories of installations and respective minimum inspection frequencies (*e.g.* in the US, Finland and France) to formal scoring systems (in the UK and the Netherlands). The latter, sophisticated inspection targeting schemes allow the British and Dutch competent authorities to actually reduce the overall number of site visits (while increasing the number of in-depth compliance audits at high-risk installations). There is also evidence (see Section 4.3) that better targeted inspections result in a higher rate of detection of non-compliance and, therefore, more effective and efficient compliance assurance programmes.

- *Expanding role of self-monitoring by the regulated community*. The shifting of responsibility for actual monitoring of industry's environmental impacts from regulatory agencies to operators themselves gives businesses more ownership of compliance and increases the efficiency of compliance monitoring. Importantly, this widespread trend is balanced in most of the countries by efforts to streamline self-reporting requirements for businesses (eliminating unnecessary reporting items, introducing electronic reporting, etc.) and reinforcing the scrutiny of self-monitoring reports.
- *Making enforcement more proportionate to non-compliance*. More emphasis on administrative *versus* criminal response to non-compliance in several countries (*e.g.* in the UK and France) allows the decriminalisation of less severe violations and makes enforcement more expedient and efficient. Another aspect of this trend consists of taking more account of an offender's economic benefit from non-compliance. Economic methods to calculate and extract this benefit via monetary penalties are used in the United States and, increasingly, in the UK and the Netherlands.
- *Enhancing stakeholder co-operation, transparency and public disclosure*. Stakeholder co-operation in compliance assurance comprises both interagency co-ordination and external dialogue with the regulated community as well as the public. There is more extensive interagency co-ordination that is closely linked to the growing integration of environmental permitting and compliance monitoring regimes, where environmental regulators have to consult other authorities and collaborate with them in compliance monitoring and enforcement activities. The dialogue with the regulated community is expanding through compliance promotion and increasing transparency of permitting and enforcement procedures. Finally, more and more countries publicly disclose compliance monitoring information and some provide access even to enforcement data.
- *Mobilising information technology to support compliance assurance programmes*. Information technology is increasingly employed in permitting, compliance assistance, monitoring and reporting. From electronic submissions of permit applications and self-monitoring reports to databases of various complexity to interactive web-based tools, IT is both a key means of improving the efficiency of environmental enforcement authorities and an essential element of initiatives to reduce the administrative burden on the regulated community.
- *Analysing non-compliance with environmental requirements in order to improve policy design*. In many of the studied countries, environmental enforcement authorities take part in the elaboration of new or improvement of existing policies and regulations, closing the gap between policy development and implementation. The Dutch "Table of Eleven" method

(see Sections 1.2 and 2.3) is an example of good practice ensuring that all the dimensions of policy design that may affect compliance are adequately considered and addressed.

Remarkably, *improving the efficiency of compliance assurance is at the core of most of the listed trends*. This underlying theme accentuates perhaps the main paradigm of modern environmental compliance assurance systems: how to achieve better environmental results given the diminishing financial resources, *how to do more with less*. In general, the enforcement agencies respond to this challenge by streamlining the key activities (*e.g.* via cross-media integration of compliance monitoring), adopting new and improving the existing instruments (as in compliance promotion or self-monitoring), and targeting their activities where they are likely to count most – on higher-risk segments of the regulated community.

6.2. Issues for Further Analysis

This comparative study has identified and illustrated best practices across a spectrum of compliance assurance instruments in selected countries. At the same time, it raises a number of issues that point to opportunities for the further improvement of compliance and enforcement programmes. Some of these include:

- *Does the implementation gap reflect a policy failure or ineffective compliance assurance?* Poor policy implementation can be caused not only by the failure of the government to enforce the requirements but also the inadequate design of the requirements themselves. Only requirements that are economically and technically feasible are enforceable in the long run. This issue underscores the importance of Regulatory Impact Assessment as a central tool for determining the realism of regulation, as well as the value of participation of enforcement authorities in the choice and design of policy instruments.
- *How could the feedback loop to legislative and policy design be strengthened?* This study has revealed that while most environmental enforcement authorities regularly report to the government and/or to the legislature on their activities (using performance indicators), only a few try to provide feedback to policy makers on the reasons for non-compliance which could be taken into account in amending policies and laws or drafting new ones. Having regulations with clear requirements that produce a maximum level of spontaneous compliance (without a need for enforcement) requires that enforcement agencies possess tools to evaluate compliance and be invited to contribute to regulatory development.
- *Which indicators are most useful in measuring performance of environmental compliance assurance programmes?* As mentioned earlier, the studied countries use very different sets of indicators for performance assessment. Coupled with differences in instruments and terminology, this makes cross-country comparison, let alone benchmarking, virtually impossible. Considering the potential value of further comparative studies and benchmarking, it could make sense to develop a limited list of performance indicators that would lend themselves to comparative analysis. International compliance and enforcement networks such as INECE and IMPEL could contribute to addressing this challenge.
- *What are the limits of doing more with less?* Given that the need for better cost efficiency is a key driver for the modernisation of environmental compliance assurance systems, this question demands special attention. The growing body of environmental legislation and the diversification (and sometimes expansion) of the regulated community would ultimately outweigh the efficiency savings from better design of compliance assurance programmes. This is particularly true in developing countries where enforcement agencies

operate with even more limited human and financial resources. Methodologies could be developed to assess the resources that would be required to achieve certain compliance objectives. More detailed analyses of the efficiency and effectiveness of compliance assurance programmes and/or instruments could assist this effort.

This study covered a comprehensive range of elements of compliance assurance systems and key trends in a few countries. Some of these elements and trends may deserve more in-depth analysis with a wider sample of country experiences at the national and (in decentralised systems) sub-national levels. Furthermore, whereas this analysis deliberately covered nations with quite different legal, institutional, and cultural profiles, useful conclusions may also be drawn from comparisons of countries with similar legal and/or institutional frameworks. The work conducted by the IMPEL network for EU Member States is an example of the latter approach, which could be taken further to include other OECD countries and non-OECD countries.

PART II

Country Profiles

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PART II

Chapter 7

Finland

7.1. Key Features of the Legislative Framework Related to Compliance Assurance

Since Finland joined the EU in 1995, the national legislation has been widely harmonised with the community legislation, particularly where environmental protection and nature conservation are concerned. The legislation on waste, air protection and water protection was also renewed during the 1990s, and new legislation has been enacted on issues including environmental impact assessments and compensation for environmental damage. The following are the main Finnish environmental laws regulating industrial pollution:

- The Environmental Protection Act (2000) is a general act on the prevention of pollution which is applied to all activities that cause or may cause environmental damage and to all media. It implements the EU IPPC Directive which obliges EU member states to integrate the control of emissions caused by industry.
- The Waste Act (1993) is largely based on EU legislation, but in some cases includes stricter standards and limits than those applied in the EU as a whole.
- The Act on Compensation for Environmental Damage (1994) provides for compensation for environmental damage given a probable causal link between an activity and the loss (*i.e.* under strict liability).
- The Environmental Damage Insurance Act (1998) guarantees full compensation for environmental damage in cases where those liable for compensation are insolvent, or the liable party cannot be identified.
- The Act on Environmental Impact Assessment Procedure (1994) applies to all projects that may be expected to have considerable negative environmental impacts.

Until 1995, the most important penal provisions concerning environmental offences were included in approximately 40 different laws and regulations. The multitude and occasional incoherence of the provisions sometimes led to difficulties in interpretation. In September 1995, a uniform chapter on environmental offences was included in the *Penal Code* which covered all relevant criminal provisions. The laws outside the Penal Code now cover only minor offences punishable by a fine.

7.2. Institutional Framework for Compliance Assurance

Central level

The Ministry of the Environment (MoE) is responsible for environmental protection, nature conservation, land use and building, and housing. The MoE (around 250 staff) defines environmental policies, makes strategic plans at the national level, sets targets for environmental protection, and drafts environmental legislation. The Environmental Protection Department (about 100 staff) deals with environmental policy issues (other departments deal with nature protection, land use, housing, international co-operation, etc.).

The Finnish Environment Institute (FEI) is both a research institute and a centre for environmental expertise. FEI provides expert services on a wide-range of environmental

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issues for administrators, local authorities, industries, firms and other organisations, and participates in drafting of environmental legislation. It issues permits for international shipment of wastes, use of certain chemicals, and export and import of endangered species. The institute also serves as the national centre for environmental data in Finland.

The Technological Safety Authority is responsible for controlling high-risk Seveso installations, while the Nuclear Safety Authority deals with nuclear power plant safety and other issues of radiation protection. Regional customs authorities collect environmental taxes. The police assist environmental inspectors in investigating environmental violations.

Sub-national level

The *Environmental Permitting Offices* (for western, eastern and northern Finland), which operate independently under the MoE, deal with permits for about 2 000 large industrial plants (including most IPPC installations). They are not involved in compliance monitoring but have enforcement powers with respect to installations that receive permits from them. Their combined staff is about 90.

Finland's thirteen *Regional Environment Centres (RECs)* implement environmental protection measures and ensure that environmental legislation is observed in their respective areas. Their principal responsibilities include environmental protection (for example, they issue environmental permits for about 4 000 medium-sized installations and monitor compliance), management of water resources (under the supervision of the Ministry of Agriculture and Forestry), land use and nature conservation. The RECs operate independently and have about 420 permitting and compliance monitoring staff (this number is expected to be gradually reduced as part of the government's general downsizing effort).

Permitting and inspection staff are usually part of the same unit. Sometimes the same person may do both permitting and inspection, but the two functions are almost never combined for the same installation. Inspectors are usually not specialised in any particular sector, with the exception of pulp and paper industry specialists in almost every REC and experts in metallurgy and aquaculture in selected regions.

While the Environmental Permitting Offices and the RECs operate independently, the Ministry provides them with guidance. The publication series Environmental Administration Guidelines launched in 2006 contains regulations, instructions and recommendations for environmental authorities.

Municipalities (over 400) promote and supervise environmental protection on a local scale, including air quality monitoring. They also issue environmental permits for small installations and provide opinions on permits prepared by the Environmental Permitting Offices and the RECs. In contrast to Finland's six major municipalities, small municipalities often lack dedicated environmental staff and rarely conduct inspections except in reaction to complaints. In the Oulu area, ten municipalities have created, and pooled resources for, a joint environmental committee which carries out both permitting and compliance monitoring functions, significantly improving the efficiency and effectiveness of their environmental activities.

7.3. Regulatory Regimes

Regulated community

The state environmental authorities issue permits to about 6 300 installations, including 880 IPPC installations (or 687 permitted IPPC facilities)[1], and municipalities regulate over

17 000 small facilities. In the early 1990s, an integrated data system was created to manage information on all permitted installations.

The Compliance Monitoring Data System (VAHTI) is an environmental information management tool which contains links to all permitting documentation (permits and communication with operators), inspection reports, as well as data on raw materials use, production and pollution releases of individual installations. VAHTI is primarily designed for the RECs, but its main parts are accessible to the MoE and permitting authorities. Municipality-regulated installations are expected to be fully integrated into VAHTI in the near future. VAHTI is connected to the ARTTU database of all regulated entities and the AHJO document management system which contains all electronic documents produced and received by the environmental authorities. VAHTI is not open to the public, but some of its outputs are uploaded to the joint website of state environmental authorities.

Permitting

The permitting requirements and procedures are laid out in the Environmental Protection Decree (2000). The range of activities specified in the Decree for which an *integrated permit* is required is very broad and covers even minor installations, which makes the system comprehensive but rather cumbersome.

Permitting is handled by the Environmental Permitting Offices, RECs, and municipalities. In principle, all installations requiring a permit follow the same procedure, although operators of large installations must submit more detailed applications. There is no application form: operators use permit application guidance developed by FEI together with the Ministry, permitting authorities and industry. Integrated permit conditions for all installations are based on best available techniques (BAT), but the conformance with environmental quality standards is always checked.

The permitting authority requests opinions from the concerned REC, municipal authorities and other relevant government agencies. RECs as compliance monitoring authorities often actively participate in the preparation of permits by the Permitting Offices. At a minimum, they have to furnish a statement about the applicant's compliance record and an opinion on the installation's environmental impact assessment for new developments (RECs are in charge of the EIA process, while installations under the jurisdiction of municipalities are not subject to EIA requirements). For a month following the publication of a notice in a local newspaper by the operator, the public has access to the application no matter the installation's size. Comments on the application can be provided during the entire permit determination process. Permits issued by the Permitting Offices and RECs are publicly available on their websites (with the exception of commercially confidential information), but not those issued by municipalities.

Any institutional stakeholder or individual can complain against a permit decision and/or permit conditions to the Administrative Court of Vaasa, then to the Supreme Court. If a permit is granted to an operator but is appealed against, the operator may proceed with the activity after depositing a bank guarantee for decommissioning in case the permit is cancelled by the court. The consideration of appeals usually takes more than a year. Sometimes judges (who, in the Administrative Court, are specially trained to determine environmental cases) visit the installation in question but there is rarely a hearing of an appeal case.

The permit specifies a deadline by which the operator must submit a new application: usually, within 10 years, but this period can be shorter for new installations whose environmental impact is not immediately clear. However, the permit's validity is not limited, so while a permitting authority considered the new application, the installation continues to operate under the old permit.

A draft amendment is being prepared to the Environmental Protection Act, which would simplify the procedure for some small installations permitted by municipal authorities by replacing customised permits by government-issued *general binding rules*, limiting the permitting procedure, eliminating public hearings on applications and the appeal to the Supreme Court. In the future, it is envisaged to cover 10-15% of all permitted installations (those with minor environmental impact, large numbers and stable technologies) by general binding rules.

The MoE is developing detailed permitting guidance to the RECs and municipal governments to improve the consistency of permit requirements across different regions. Furthermore, the MoE is currently undertaking three initiatives on streamlining the environmental permitting system:

- To reduce the overall number of environmental permits to be issued;
- To improve the institutional setup of the permitting system (possibly, by creating a co-ordinated, one-level network of permit offices); and
- To expand the use of information technology in permitting (*e.g.* electronic permit applications).

Notification

The Environmental Protection Act allows notification instead of permitting for temporary activities causing noise and vibration, experimental activities of short duration, and restoration of polluted soil. In a notification procedure, the municipal authorities may also issue regulations and guidelines and, in some cases, even prohibit the activity. The use of notifications is expanding.

7.4. Compliance Promotion

Information dissemination to the regulated community

Compliance assistance is an integral part of the Finnish permitting and compliance monitoring system. Inspectors often have discussions with operators on existing and potential compliance problems and possible solutions. The results of such discussions are recorded in the VAHTI compliance monitoring system. Sometimes there are national-level negotiations with representatives of an entire industrial sector. SMEs benefit from direct technical assistance (*e.g.* inspectors may help operators to develop their environmental management plans to better comply with regulatory requirements).

The dissemination of guides on best practices has been the predominant trend in compliance promotion in Finland. Environmental authorities co-finance with industry associations the development of studies on specific issues of industrial environmental management. The MoE has also produced a series of fact sheets describing Finnish companies' eco-innovations and put them on its website.

The Confederation of Finnish Industries and sectoral industry associations use their own means (websites, newsletters) to disseminate regulatory and technical guidance. Some industry associations organise compliance promotion seminars for their members.

Substantial supporting activities have been conducted in order to strengthen and enhance the application of BAT in permitting. National industry branch groups have been set up for major categories of EU BREFs in order to adapt them to Finnish conditions, forming a "BAT Network" co-ordinated by the Finnish Environment Institute. Half of the members of the branch groups are representatives of permitting and enforcement authorities, the other half are industry experts. Half of the cost of national BAT studies was covered by public funding and half by industry.

Promotion of good environmental management

In Finland, businesses have for years been working on their environmental management methods. At the beginning of 2007, there were a total of 991 enterprises in Finland with an ISO 14001 certification. Several years ago, the MoE actively promoted EMAS in workshops and via advertising (the FEI keeps track of EMAS certification by operators, although EMAS is much less widespread in Finland than ISO 14001). At this time, the MoE does not consider it necessary to make special efforts to promote EMS in industry because international market pressure to adopt such systems is a much more powerful factor. Still, operators with certified EMSs often receive a slight reduction in their permit fees.

In addition, the MoE elaborated a green strategy for public procurement in 2003 and published a guide for public purchasers on the environmental aspects of products and services. In 2004, the former Ministry of Trade and Industry (now Ministry of Employment and Economy) adopted a new policy for the promotion of corporate social responsibility, including better environmental management.

As a matter of principle, the Finnish government does not provide financial assistance to industry in achieving compliance with environmental requirements. At the same time, there are several financial mechanisms available to private companies willing to invest in innovative environmental technologies.

7.5. Compliance Monitoring

Compliance monitoring instruments

Finnish competent authorities distinguish routine and special inspections. Special inspections are carried out for new installations as part of the permitting process, to control self-monitoring arrangements, and in case of accidents or complaints. Complaints can be brought by either individual citizens or NGOs. A REC or a municipality (depending on the jurisdiction of the installation in question) must register a public complaint, address it, and inform the plaintiff of the outcome. If an authority does not adequately address a complaint, it may be sued in the Administrative Court.

Practically all (even special) inspections are announced to the operator in advance to ensure on-site presence of relevant enterprise staff. Since all operating incidents must be reported by the operator anyway, the RECs do not see a sense in conducting unannounced inspections, except to control waste management in SMEs. Larger installations are visited by a team of two-three inspectors. At the inspector's discretion, the municipal environmental authority may also be invited to participate in the inspection. Inspectors use sector-specific

checklists (for about 15 sectors) developed jointly by the RECs. Inspections never last longer than a working day.

The inspection's written record, including all references to non-compliance and agreed corrective actions, is always produced, usually within a week, and entered into VAHTI (it is also sent to the municipal authority). In case of important corrective actions agreed as a result of the inspection, the operator may be invited to countersign the inspection report in confirmation of his agreement. Inspection reports are not available online, but the public can request access to them from the relevant REC inspector.

Since 2005, the joint website of the state environmental authorities contains for each REC a list of all permitted installations, their control class and names of responsible inspectors; as well as the number of inspections in a given year, reasons for each inspection, and its key results. The information is based on inspection reports and is updated every night. This system makes the RECs transparent in their activities and accountable to the public. It has also contributed to a significant improvement in the quality of compliance monitoring.

The number of site inspections is likely to decline in the near future. An increasing number of meetings between inspectors and operators do not involve site visits. These meetings may occur several times a year and cover planned changes in operations, potential or recent incidents, implementation of particular permit conditions, etc. Such regular discussions are considered crucial for maintaining compliance.

Targeting of compliance monitoring activities

Each REC develops an annual compliance monitoring plan which covers inspections, negotiations with operators, review of self-monitoring reports, etc. In 2005, the MoE issued compliance monitoring guidance to the RECs which set risk-based criteria for four classes of installations and determined minimum inspection frequencies for each class. Class 1 installations (most IPPC installations and those with a poor compliance history) should be inspected every year, Class 2 installations – once every two years, Class 3 – once in four years, and Class 4 – once at the time of permitting. Among all installations inspected by the RECs, there are 4% Class 1 installations, 15.5% are Class 2 installations, and 31% belong to Class 3.[2] Each REC compiles its own list for each class of installations under its jurisdiction. In practice, there are more inspections than the minimum number prescribed by respective classes (and particularly for Class 1). Larger municipalities have their own inspection programmes.

Self-monitoring

Self-monitoring requirements are normally part of permit conditions. A separate self-monitoring plan with technical details may be required for approval by the REC. When a permit enters into force, the competent authority inspects the operator's self-monitoring system itself or uses third-party auditors to do so.

The trend is to rely more and more on self-monitoring and reporting of air emissions, wastewater discharges, and key parameters of technological processes such as raw materials and energy use. There may also be a requirement to monitor ambient environmental impact of the installation, which is usually done by a third party.

Regular submission of self-monitoring reports is done electronically. (The smallest installations permitted by municipalities do not have to submit regular self-monitoring reports but must keep respective records and make them available during inspections.)

After the data are checked and approved by the REC, it is recorded in VAHTI. The environmental administration maintains and is developing further a website where operators and authorities can find emission factors and other supporting material for the evaluation of emissions. The environmental authorities encourage operators to incorporate self-monitoring arrangements into their quality and environmental management systems so that they undergo third-party audits. Facilities must also immediately report *electronically* to the authorities all exceedances of short-term emission limits, breakdowns, spills, or other incidents.

7.6. Non-compliance Response

Administrative enforcement

In the Finnish compliance culture, once a permit has been agreed upon, operators usually make earnest efforts, using their EMSs, to comply with the requirements. If a violation is discovered, the operator is allowed (sometimes during the inspection itself) to present a *plan of corrective actions* to return to compliance. Alternatively, corrective actions may be "recommended" with a specific deadline in an inspection report. The operator then has to report on the completion of the corrective actions. However, if the operator fails to present a compliance plan or its actions are judged inadequate by the competent authority, then the latter issues a *compliance notice* and the case may be referred to the police for criminal prosecution. In practice, compliance notices are used very rarely: in 2006, corrective actions were agreed as a result of 16.8% of all REC inspections, and compliance notices were issued in 3.3% of the cases.[3] Even when a compliance notice is used, it is regarded as a sanction in itself (as it is disclosed to the public) and rarely includes penalties.

Even after lodging a statement of criminal offence with the police, the competent authority may continue to investigate the case further in an administrative procedure and apply administrative sanctions if necessary. Authorities can impose a conditional fine or an actual administrative fine (without a defined upper limit) when the threat of a conditional fine is not enough to restore compliance. In practice, fines are mostly used for waste management violations. Their rate is usually a function of the size of the installation and its ability to pay. A fine (but not a conditional fine) can be appealed to the Administrative Court. In extreme situations where the violation presents a threat to human health or the environment, the REC, sometimes with the help of the police, can shut down the activity by temporarily withdrawing its permit.

If the permit has been issued by the Permitting Office, the REC must formally request that the Permitting Office apply administrative sanctions. Municipal authorities have an additional range of administrative sanctions which can be imposed under the health protection laws.

In 2004, the FEI published a report on best practices in administrative enforcement of environmental violations in Finland, but there is no MoE guidance on this matter.

Criminal enforcement

Criminal enforcement in Finland is handled by the police, which has specialised personnel focusing on environmental issues. The police conduct a pre-trial investigation itself or, if the offence is very serious, transfer it to the National Bureau of Investigation. Investigation of environmental offences nearly always requires the involvement of a prosecutor in the pre-trial investigation.

After the conclusion of a pre-trial investigation, the case is forwarded to a local prosecutor (or a prosecutor specialised in environmental offences) for consideration of charges. The prosecutor then decides whether there are sufficient reasons and legal grounds to pursue the case. If the case is prosecuted, it is tried in a local District Court, with appeals possible to the Court of Appeal and further to the Supreme Court.

Criminal penalties vary from a fine (which has to be proportional to the benefits accrued due to non-compliance) to a maximum of 6 years of imprisonment, depending on the seriousness of the act. An environmental violation involving danger to public health may entail penalties of up to 10 years of imprisonment. Revenues from fines go to the general budget.

Criminal environmental offences in Finland are very rare, and prosecution cases are rather exceptional, occurring less than once a year in most jurisdictions. Only about one-tenth of the investigation reports lead to prosecution, and a minor part of the cases prosecuted result in sanctions. Due to the very small number of cases, it is difficult to draw clear conclusions on whether the number of cases are increasing or decreasing, but it seems that the number of legal cases has been fairly stable. Efforts are being made to better link the fines to the benefits gained from the offence in order to increase their effectiveness.

Civil liability

Companies must cover the costs of rehabilitating any areas they have contaminated. This liability must be reported in annual corporate accounts, financial reports and voluntary environmental reports, as soon as contaminated areas have been duly surveyed, and reasonably reliable estimates of the future rehabilitation costs are available. The liability is strict: proof of a legal offence is not required for the operator to be found liable for damages. Operators can take traditional insurance against regular damage compensation claims on a voluntary basis.

Compensation claims for environmental damage should first be addressed directly by the claimant to the company or organisation responsible. If agreement is not reached on compensation sums in this way, the claimant may resort to the courts at any time up to ten years after the damage is incurred (in practice, there are not too many damage compensation cases tried in court). In some cases compensation may be claimed from secondary parties. Citizens have direct access to courts only if they are direct victims; in other cases they have to complain to environmental authorities.

Finland also has a particular scheme for compensating private owners of water bodies for *prospective* damage from water pollution. This is done by Permitting Offices as part of the permitting process (this scheme is the legacy of the Water Courts which existed in the country before the year 2000). The amount of compensation and the parties to be compensated are, if applicable, stipulated in the permit itself. This is usually a contentious issue which triggers many appeals against related permits (see Section 7.3).

The Environmental Damage Insurance Act creates a complementary compensation scheme for environmental damage. The act guarantees compensation not only to those suffering from environmental damage, but also covers the costs of measures taken to prevent or limit the damage and to restore the environment to its previous state. In that context, the scope is similar to the Environmental Liability Act, which prescribes primary liability concerning environmental damage. However, the act is not retroactive and it does not cover compensation for oil spills (covered by the Oil Pollution Compensation Fund).

Complementary environmental damage insurance is taken out to make certain that any financial losses incurred can be compensated by insurance companies even where the causer of the damage is unknown, uninsured or unable to pay compensation. The insurance premiums are obligatory for private corporations whose operations involve a material risk of environmental damage or whose operations cause harm to the environment in general. This includes all entities whose activities require an environmental permit or a permit from the Technological Safety Authority for handling hazardous chemicals.

The complementary insurance scheme is run by insurance companies. They have established the Environmental Insurance Centre, which handles all claims for compensation under the scheme.

7.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

The entire state environmental administration is funded through the MoE which allocates resources to the Permitting Offices and the RECs. The total budget funding for compliance assurance activities by the state environmental administration amounted to EUR 21.4 million in 2006. Although this represents a significant increase from EUR 14.6 million in 2002, in real terms the budget has been growing very slowly. The environmental administration is now facing significant staff reductions.

Budget resources represent about 80% of the total funding for the state administration's environmental compliance assurance activities (its share fell from 84% in 2002 to 78% in 2006). The balance is covered by permit processing fees levied by the Permitting Offices and RECs at the time of permit issuance. The fees vary between EUR 300 and EUR 30 000 per installation (there may be several covered by one permit), based on the regulator's labour costs defined in an MoE regulation for different categories of permitted activities. Revenues from the fees can be used by the Permitting Offices and RECs at their discretion (*e.g.* to hire additional staff). Municipalities also charge permit fees, assessed in accordance with the same principle.

Strategic planning

The MoE does not set any national priorities for compliance assurance, and its targeting strategy is represented by the system of four compliance monitoring regimes for respective classes of installations. The same lack of formal outcome targets is observed at the local level.

The consultation and feedback mechanisms between the sub-national environmental authorities and the MoE and among municipalities are much better developed. There are annual joint seminars between the MoE and the RECs in which compliance assurance issues are discussed. Municipalities within one metropolitan area hold similar quarterly meetings to exchange experiences, and the six largest municipalities (Helsinki, Tampere, Turku, Oulu, Espoo and Vantaa) organise annual best practices workshops.

Performance assessment

A performance indicator system for environmental authorities in Finland is at an early stage of development. Widely tracked are only the number of permits issued, the number of inspections, the number of complaints addressed (as well as the timeliness of

addressing them), and the types of administrative actions taken. Recently, the MoE introduced indicators on the timeliness of inspectors' actions (*e.g.* response to complaints).

Performance assessment starts from individual staff members' management review. The director of each REC annually assesses year the effectiveness of compliance monitoring against the objectives, and the results are posted on the Internet. Each year, the MoE conducts a performance evaluation and target planning session for all the RECs. The MoE has recently started a pilot project in one REC to develop a quality assurance system for permitting and compliance monitoring and integrate it into the existing electronic data management system.

Staff training

Every inspector undergoes some kind of training every year (to date, most of this training has been organised by the FEI). For example, 32 different training courses were offered to environmental inspectors in 2006. Individual targets are discussed and decided annually between each staff member and his/her supervisor. On average, inspectors spend 6-7 days a year in training. Municipalities seldom conduct their own training activities but send their inspectors to sessions held by the FEI or the RECs.

A new training programme for all inspectors was launched in 2008 and is run by the RECs. It does not, however, cover municipal inspectors, for whom municipalities organise *ad hoc* training activities. The training programme focuses on three areas:

- Regulatory requirements and compliance monitoring tools;
- Prioritisation and planning of compliance monitoring activities; and
- Enforcement approaches and instruments.

There is also a special training and certification procedure for staff involved in monitoring wastewater discharges (as well as surface water and groundwater). Moreover, police officers are annually trained in matters related to environmental offences, mainly in the context of courses on criminal investigation.

Notes

1. As in a number of other European countries, installation is defined as a technical unit, and there may be several installations in one facility.
2. Ministry of the Environment, 2007 (data for 2006).
3. Ministry of the Environment, 2007.

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PART II

Chapter 8

France

8.1. Key Features of the Legislative Framework Related to Compliance Assurance

France's environmental legislation was integrated into the Environmental Code in 2000. The Code consists of a legislative and a regulatory part, covering laws and government decrees, respectively. Title V deals with pollution prevention and control and industrial risks, including penalties for non-compliance.

The key piece of national pollution control legislation is the Law on Classified[1] Installations (1976, implemented through Decree 77-1133) which established integrated management of air and water pollution, noise, waste and soil pollution, and prevention of technological risk from an installation. The law has been amended more than 15 times since its initial adoption. The "classified" installations are subject to a permit or a declaration based on the degree of their environmental impact. The Law on Prevention of Technological and Natural Risks and Damage Redress (2003) adopted in the wake of the AZF chemical plant explosion in Toulouse reinforced risk prevention and strengthened environmental inspection.

8.2. Institutional Framework for Compliance Assurance

The Ministry of Sustainable Development is responsible for the transposition of the EU environmental legislation and the development of national laws and regulations. The Ministry's Directorate General of Risk Prevention (DGPR) has a lead responsibility for industrial pollution control and provides technical, methodological and regulatory guidance as well as oversight on compliance assurance. In particular, the Technological Risk Service and, under it, the Bureau of Regulation, Inspection and Control Guidance and Quality deal with compliance monitoring practices.

The High Council for Classified Installations (CSIC), which includes 30-35 members representing government agencies, industry, trade unions, and NGOs and meets monthly, issues consultative opinions on draft legislation and regulations for "classified" installations and considers proposals for new regulatory policies.

Under the authority of the Ministry, most individual decisions are made by the prefect (*préfet*) of the relevant territorial department (there are 100 departments in France) who represents the central Government. Thus, all permitting, compliance monitoring and administrative enforcement is formally carried out under the authority of the prefect. The prefect or his/her representative chairs the Departmental Council of Environment and Sanitary and Technological Risks (CODERST) – a stakeholder committee comprising representatives of government agencies, local elected officials, NGOs and experts – which meets monthly and contributes to the elaboration and implementation of local environmental policies and delivers opinions (usually followed by the prefect) on individual draft environmental permits and administrative sanctions.

The prefect is supported by the following *delegated inspection services* which are subordinated to the Ministry of Sustainable Development for this activity but are part of other line ministries' offices:

- Regional Directorates for Industry, Research and the Environment (DRIRE) in each of metropolitan France's 22 regions and two overseas are responsible for compliance assurance activities with respect to the majority of industrial installations. In addition to regional offices, there are about 120 local DRIRE offices covering every department.
- Departmental Veterinary Service Directorates (DDSV) are in charge of the implementation of environmental requirements for agricultural sites, slaughterhouses and some food industries.
- The Technical Service for Inspection of Classified Industrial Installations (STIIIC) is an agency under the Police Prefecture of Paris covering the capital itself and its surrounding departments.

There are about 1 500 inspectors (approximately 1 200 full time equivalents) in the DRIREs, DDSVs and STIIIC, all of whom are state civil servants. There are an increasing number of inspectors, particularly in the Regional Directorates. Between 1998 and 2007, DRIRE staff has almost doubled. Regional-level staff provides support to and oversight of operations in department-level offices where most inspectors are located.

DRIREs and other inspection services do not have internal laboratories and rely on external laboratories certified by the Ministry of Sustainable Development to order sampling and analyses at an operator's expense. DRIREs currently may not employ contractors for its regulatory activities, but options for outsourcing some compliance monitoring functions are being studied.

Most site inspectors are generalists and cover all industrial sectors. Inspectors may call on technical specialists in a regional DRIRE office for additional support. However, there is an increasing trend of technical specialisation and better training of inspectors. Individual inspectors carry out all regulatory functions, including permitting, inspection and enforcement with respect to pollution control and risk prevention. In order to avoid the conflict of interest, an inspector cannot be responsible for the same priority installation for more than six years and cannot mix regulatory and advisory functions. Some DRIREs (*e.g.* in Haute-Normandie) have created special permitting functions separated from inspection ones and rotate staff between the two categories.

In addition to pollution and risk prevention and control, the Ministry of Sustainable Development is also responsible for nature protection and many other aspects of environmental policy development and implementation. Natural resource protection is the principal responsibility of the Regional Environment Directorates (DIREN), delegated services of the Ministry operating under the authority of the regional prefect.

In several regions, there have been experiments of closer association between the DRIRE and the DIREN. For example, in Haute-Normandie, both Directorates are headed by the same person, co-ordinate their activities under the regional Environment and Sustainable Development initiative, and even issue joint annual reports. Between 2009 and 2011, all DRIREs and DIRENs are expected to be merged into Regional Directorates for Environment, Territorial Development and Housing.

France's six river basin-based Water Agencies do not have regulatory functions. They collect revenues from fees on water abstraction and wastewater discharges and

redistribute them as subsidies to local communities, industries and farmers for water pollution prevention and control and water resources management projects.

8.3. Regulatory Regimes

Regulated community

In France, the term "*installation*" is not used in the same way as, for example, in the UK. It means a technical unit of a facility (*établissement*), even though several technical units may be permitted as one entity (which corresponds to an installation in the UK). The statistics for permitting and compliance assurance activities are also collected in terms of numbers of facilities.

Each DRIRE maintains a database (GIDIC) of "classified" installations subject to a permit and related inspection activities (SIGAL is a similar information system for DDSVs). These databases are merged once a week into a respective national database. In addition, CEDRIC (*Consultation Electronique des Documents Relatifs aux Installations Classées*) is an internal document database which contains prefects' orders and inspection reports. Records of declarations from smaller installations are maintained by prefects. This information is used, among others, to determine budget allocations to individual DRIREs.

There are two principal regulatory regimes for "classified" installations: those requiring a permit (*autorisation*) from the prefect and those that must submit a *declaration* to the prefect before starting operation. Non-classified installations – those which are below the regulatory thresholds for declaration requirements – are not regulated environmentally by the Ministry. They are subject to local rules defined by municipalities. Non-point pollution sources are regulated by the Ministry of Sustainable Development by environmental media, and the Ministry's separate directorate is responsible for transport issues.

As of August 2008, there were about 500 000 "classified" installations in France, including roughly 450 000 declared installations and 51 000 facilities comprising at least one installation subject to permitting. The latter comprise 7 000 IPPC facilities (including 3 330 livestock farms, 980 metal processing facilities, 890 waste management installations and 590 chemical plants), 14 310 non-IPPC farms and 4 700 quarries. There are around 1 200 Seveso-regulated high-risk industrial installations.

Permitted installations

In France, permitting has been integrated across the environmental media since the adoption and subsequent implementation of the 1976 Law on Classified Installations. A permit is issued by the prefect in a form of an order (*arrêté*) based on a proposal from an inspection service and is valid for an unlimited time period (except for quarries and landfills). However, permits must be reviewed every 10 years, and the operator must notify the prefect of any significant operational changes which may require submission of a new permit application.

A permit is prepared by an inspector following a consultation process with statutory stakeholders, the public and NGOs (a public inquiry through comments or a public hearing). The statutory stakeholders include:

- Regional Environment Directorate (responsible for natural resource protection);
- Departmental Directorate of Agriculture and Forests (in charge of water, forests and some aspects of nature protection);

- Departmental Directorate of Equipment (responsible for construction permits);
- Departmental Directorate for Sanitary and Social Affairs (in charge of hygienic norms and nuisance regulation);
- Departmental Directorate of Labour (in charge of workplace safety); and
- Local authorities.

Certain categories of "classified" installations (high-risk facilities subject to permits with siting restrictions, waste management installations, and quarries) are required to provide a *bank or insurance guarantee* covering routine operations, potential accidents, as well as decommissioning and site remediation. A required amount is fixed in a permit based on the operator's estimate (in accordance with the ministerial instructions for calculation) submitted as part of a permit application. It is re-evaluated periodically.

Once the permit is issued, its conditions may be appealed. A company has two months from the time of the issue to submit an appeal. Other stakeholders, including NGOs, have four years to appeal against permit conditions, or one year in case of permits for public entities. An appeal is first made to an inspection service, then (at least in theory) to the Minister. If rejected, an appeal can be submitted to an Administrative Tribunal, the Administrative Appeals Court, and the Council of State.

A General Tax on Polluting Activities is imposed on installations subject to a permit (except farms) in two modes: a permitting fee payable per act of initial issuance of a permit, its extension, renewal and (in some cases) change of operator, and a subsistence (operating) fee payable annually.

In 2005, the Environmental Inspectorate General of the Ministry of Sustainable Development prepared a report proposing, among others, to simplify the permitting regime for certain categories of "classified" installations (not subject to the IPPC or Seveso requirements). An intermediate permitting regime would envisage a shorter, less detailed application. The stakeholder and public consultation would also be reduced under this procedure. This would allow inspection services to spend less time considering permit applications and focus more on compliance monitoring. A draft law to implement this system has been prepared by the Ministry and awaits parliamentary consideration.

Declared installations

Declared installations are subject to general binding rules that are laid out in standardised ministerial orders (*arrêtés-types*). These requirements are attached to the formal acknowledgement of receipt of a declaration which is sent by the prefect to the operator. In some cases, they may be made more stringent by an order of the prefect to reflect local conditions. However, the inspection services do not usually have an opportunity to review a declaration or recommend to reject it.

Under a 2006 regulation, some categories of declared installations have to request and undergo periodic compliance checks (once every 5 years, or 10 years if they have a certified EMS) by third-party organisations accredited by the Ministry of Sustainable Development. There is also a provision under consideration to allow the inspection services to review declarations and to add specific conditions for installations located in environmentally sensitive areas.

8.4. Compliance Promotion

Information dissemination to the regulated community

The DGPR does not have a formal compliance assistance programme but encourages the inspection services to regularly provide information on forthcoming requirements and inspection activities to the regulated community through different types of meetings. In co-operation with trade associations, it produces industrial sector-specific guidelines on BAT and best practices as well as applicable regulations.

The National Institute of Industrial Environment and Risks (INERIS), an independent institution under the auspices of the Ministry of Sustainable Development, is an important source of guidance, training materials and other reference for regulators and the regulated community. INERIS conducts regular client satisfaction surveys whose results are an indirect measure of the effectiveness of its compliance promotion activities.

Direct advice to operators is usually provided during the permit pre-application phase. However, an administrative circular of 2001 allows only a limited amount of time for pre-application activities (one meeting with the operator) and limits these to providing advice on what is required in a permit application.

Financial incentives

The Environment and Energy Management Agency (ADEME) co-ordinates and finances research and technological innovation in the fields of energy and environment. It provides technical assistance (audits, support for feasibility studies, etc.) and subsidies for investment projects to enterprises and local communities. In addition, European structural funds are used to provide local assistance, particularly to SMEs, in the development of environmental management systems.

The French government's financial assistance for investments in environmental protection and energy efficiency includes direct project-based subsidies and loans, and fiscal incentives.

The following are the principal sources of direct financial assistance:

- ADEME – for a wide range of investment projects in air pollution reduction, waste management, soil remediation, renewable energy, energy efficiency, and cleaner transportation (assistance is limited to projects going beyond compliance);
- Water Agencies – for water pollution prevention and control and industrial water use (assistance is not provided to installations operating under a compliance notice);
- Regional Councils – in accordance with region-specific policies, often in co-funding with ADEME; and
- European structural funds administered by prefectures based on guidance by the Regional Environment Directorate and the DRIRE.

8.5. Compliance Monitoring

Compliance monitoring instruments

The inspection services distinguish targeted and general, rapid, routine and in-depth, and planned and complaint/accident-triggered inspections. Inspections are usually conducted by a generalist field inspector, although in some DRIREs he/she is often accompanied by a specialist from the regional office.

In addition to site inspections, compliance monitoring activities include reviewing self-monitoring reports and environmental and technical studies conducted by operators and third parties. Complaint investigation is one of the inspectorate's tasks but historically was not considered a high priority. However, under the current Strategic Inspection Programme, the inspection services are expected to acknowledge each complaint and indicate the response in writing within two weeks.

There is a clear trend toward quasi-total standardisation of methods and tools for inspectors' activities. The DGPR issues a Methodology of Inspection Visits which covers the preparation of a site visit, activities during the visit, and the reporting phase, and provides key document templates. Every inspector is issued a handbook (Vade-Mecum, also available on the DGPR Intranet) containing all essential procedural guidance, document templates, and supporting information. In addition, most inspection services have issued their own procedures for inspection visits and response to accidents.

Targeting of compliance monitoring activities

The inspection regime covers all permitted installations. Declared installations are not systematically included in inspection planning and are not inspected unless there is an accident or a complaint. However, they may be affected by targeted inspection campaigns initiated by the Ministry. Unannounced inspections constitute 10% of the annual total of inspections of permitted installations – they are used mostly to take samples and verify the accuracy of self-monitoring data.

The average inspection frequency for permitted facilities is currently about once in four years. "National priority" facilities (there are about 2 000) are inspected at least once a year. They include:

- "High threshold" Seveso installations;
- Waste storage, treatment and disposal installations with capacity above 20 000 t/yr for hazardous waste and 40 000 t/yr for municipal solid waste;
- Installations with significant pollution releases (most of them are IPPC installations); and
- Installations that which carry out spreading of waste or effluent-origin material (*e.g.* sludge) on agricultural land.

There is also an annually updated list of about 8 000 "high-stake" (or regional priority) facilities which are inspected once every three years, including all those subject to European legislation, in particular IPPC facilities that are not part of the national priority list. "High-stake" facilities are determined regionally based on national criteria. All other permitted installations should be inspected at least once every seven years.

In addition to the national requirements for inspections, there is a set of *risk-based criteria* which serve to determine whether particular inspections should receive higher priority in the annual plan, whether they should be routine or in-depth, announced or unannounced, accompanied by supplementary checks (*e.g.* sampling, document review). Those criteria are essentially related to the importance (complexity of operations and sensitivity of the surrounding environment) and the compliance record of an installation. The compliance record is measured by the occurrence of violations (issuance of a statement of offence and/or a compliance order) over the previous four years and timeliness of reporting. The existence of an EMS and proactive response to local community complaints are

considered to be attenuating factors whereas the occurrence of major accidents over the previous four years is an aggravating factor. The national guidance on inspection planning provides specific recommendations on using these criteria.

Each inspection service develops a multi-annual inspection programme and an annual inspection plan and submits it to the DGPR for approval. Annual plans are further broken down in work plans of individual inspectors. There has been a significant growth in the number of site inspections in recent years, corresponding to the increased inspector staff.

Self-monitoring

All Seveso and most IPPC installations (*e.g.* farms are exempted) are required to conduct self-monitoring of their pollution releases and waste and report the results to the inspection service. Some DRIREs have produced self-monitoring guidance documents for operators describing sampling and analysis methodologies as well as appropriate data management and reporting practices. An installation's self-monitoring arrangements are regularly checked by a Ministry-certified laboratory.

There is a new regime under development following a 2006 regulation that stipulated periodic compliance checks for 38 categories of declared installations (for a total of about 30 000 installations) by certified third party organisations. The scope of such compliance checks will be specified in a further implementing regulation in 2008, and this system should become operational in 2009.

8.6. Non-compliance Response

When an inspector detects a violation, he/she issues a statement of irregularity and transmits it to the prefect. In case of imminent danger, an inspector must seek authorisation from the prefect (under a rapid procedure) before he or she may close down or suspend operation of an offending installation.

The DGPR has developed guidance for non-compliance response actions to be initiated by the relevant inspection services, which is part of the regular training programme. It makes the non-compliance response commensurate to the operator's compliance record. For example, where a generally compliant operator may get compliance prescriptions taking into account the operator's financial abilities and have its permit conditions modified, an operator with a history of minor violations may face administrative sanctions, and a recalcitrant violator may be temporarily shut down and face criminal charges.

Administrative enforcement

Administrative actions are taken by the prefect and are independent of any possible criminal enforcement actions that may be taken by a prosecutor. Initially, on recommendation of an inspection service, the prefect serves upon the offender a *compliance notice* (*mise en demeure*) specifying measures to take and a deadline. The compliance notice is not a sanction but it forms a legal basis for further enforcement actions. In some regions, prefects tend to use compliance notices selectively and often send *informal letters* instead trying to persuade the operator to correct its behaviour without formal administrative action. Still, in recent years there has been a tendency of an increased number of formal administrative actions.

Compliance with formal notices is verified by an inspection service. If the operator does not return to compliance within the timeframe indicated in the compliance notice, the prefect may use, successively or simultaneously, the following enforcement tools:

- *Order of a deposit* (*consignation*) of a sum of money with a public accounting office as a guarantee against completion of the prescribed corrective action. The amount to be deposited is equal to, or slightly exceeds, the estimate of costs of the corrective action (there is no particular guidance on how to estimate these costs). The deposit is reimbursed (often in stages) upon verification of compliance or, in exceptional cases, applied toward the cost of corrective action if the latter is undertaken by the state. Guarantee deposits are the most used administrative sanction, even though the procedure for using them is rather long and complex.
- *Corrective action order* for the state to undertake specific measures prescribed by the inspection service (*travaux d'office*) at the operator's expense. This type of action is used very rarely, in cases where the operator fails to take action under the deposit procedure, as the state is reluctant to take responsibility for the corrective action.
- *Order of temporary closure* of the installation or suspension of its permit and measures to prevent further environmental degradation during the suspension period.

A prefect may order *definitive closure* of an installation operating without a required permit or declaration or if the permit application is rejected. A permit may also be revoked in the interest of public safety or if the operator refuses to follow prescribed corrective actions. If the operator refuses to obey a temporary or definitive closure order, the prefect may order to have the installation sealed (*scellé*).

Draft legislation (awaiting parliamentary approval at the time of the writing) envisages the introduction of administrative fines and a daily fine (*astreinte*) which could be imposed by a prefect. This would make minor offences subject to administrative rather than criminal enforcement.

A prefect has considerable discretion in the application of enforcement powers. After issuing a compliance notice, he/she may negotiate with the operator to agree on measures to return to compliance without applying any further sanctions. The frequency of resorting to such negotiation (which is usually related to potential social or economic implications of applying heavy sanctions) varies greatly by region. To address this issue, a draft law on harmonisation of environmental enforcement (*police de l'environnement*) is currently under development. The operator or the public may appeal against any administrative sanction in an Administrative Tribunal under the same procedure as for permit conditions.

Compliance files for national priority facilities are available on the internet. In addition, the online ARIA (Analysis, Research and Information on Accidents) database contains information about over 30 000 industrial accidents.

Criminal enforcement

In cases of criminal enforcement, the inspection service submits a statement of offence (*procès-verbal or PV*) within five days of its detection directly to a public prosecutor, with a copy to the prefect. There is national guidance on when to initiate prosecution and local instructions produced by each inspection service on how criminal actions should be initiated. A *procès-verbal* can also be produced and submitted by the police.

The prosecutor decides whether to file the case in court. The prosecutor is only required to pursue the case if it involves civil responsibility*vis-à-vis*a private party. In 2005, the Ministry of Justice delivered guidance to prosecutors and courts on the "Directions of Penalty Policies in Environmental Matters". It, among others, called for regular consultations at the departmental level between prosecutors and competent authorities.

Minor offences (*contraventions*), such as non-compliance with a ministerial or prefect's order, failure to notify the prefect of a significant change in operations or to submit a declaration, are dealt with by *tribunaux de police* which can impose a fine per offence or a daily fine. Misdemeanours are punishable by higher fines or imprisonment. A judge may also ban the operator from running the installation either temporarily (for up to five years) or permanently. No violation is considered a felony under French environmental statutes. Under the draft legislation, a court would be able to issue an injunction for the remediation of environmental damage within a set timeframe either by the operator or by the government agency at the operator's expense. All lower court decisions can be appealed to the Appeals Court.

Although the stringency of criminal penalties has increased over the years and the number of prosecution submissions is growing, actual criminal penalties are seldom applied. This is primarily due to the low priority of environmental cases for prosecutors.

Civil liability

There are provisions for private party suits before a civil judge (in a *tribunal d'instance*) who can order not only payment of damages but also mitigation measures. A civil judge can also order reimbursement of government costs incurred in response to a violation (*e.g.* in response to an accident) but cannot order closure of an installation or evaluate permit conditions (those may be contested in an administrative tribunal). Private parties can also bring criminal cases.

8.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

Compliance assurance activities are funded entirely from the state budget. Revenues from environmental fees and charges levied on industrial installations in the past contributed to the funding of inspection activities but now go to the treasury. There is no attempt to match the fees and charges to the costs of regulation, and there is no task-specific budget allocation. Despite the sharp increase of funding for inspection services in recent years, both industry and NGOs are pushing the government to expand their budgets further.

The Ministry of Sustainable Development reviews total national funding requirements annually. The allocation of resources to individual regions is based on the relative level of industrialisation of the region. The calculation is based on a list of criteria, including the number of installations weighted by priority category (Seveso, IPPC, etc.).

The DGPR tracks the effectiveness of using the inspection services' resources via a number of performance indicators including: average number of prefect's orders per inspector, number of compliance notices per site visit, percentage of permits issued within one year, etc.

Strategic planning

The DGPR prepares an annual National Actions plan with thematic priorities. The priorities are identified through consultation with the inspection services and other stakeholders, including industry. Each action is accompanied by performance indicators. Based on the National Actions plan, each inspection service designs a regional implementation strategy, which seldom takes account of local priorities.

In 2008, the Ministry of Sustainable Development adopted a Strategic Programme of Inspection of Classified Installations for 2008-2012 with the following objectives:

- Enhance the transparency of inspectorate actions (particularly by using the internet);
- Increase the quality and timeliness of permitting decisions across the country; and
- Increase the efficiency of inspectors' activities through better prioritisation and planning.

Performance assessment

The national framework for performance assessment includes several categories of indicators covering:

- Progress in implementing national priority actions;
- Inspection activities;
- Administrative and criminal sanctions;
- Timeliness of permitting decisions;
- Compliance assurance activities*vis-à-vis* national priority installations; and
- Treatment of complaints.

The reporting data are transmitted by each DRIRE to the relevant prefects and to the DGPR. The results of compliance assurance activities nationally as well as by individual DRIREs and other regulatory services are published in the DGPR's annual Activity Summaries which track the performance indicators. More detailed regional reports are also published.

Many DRIREs have been certified to the ISO 9001 quality management system standard. They have a more elaborate system of targets and performance indicators than mandated by the DGPR, particularly for permitting and inspection.

As part of the performance review process, the DGPR director meets annually with DRIRE and DDSV Directors and their Heads of Environmental Inspection. The Ministry also engages independent experts to conduct regular reviews (usually, once every five years) of specific activities of individual DRIREs. Every four to five years, the Environmental Inspectorate General (the Ministry's internal auditing service) conducts a review of the effectiveness of inspection services at the regional level. The Accounting Court (*Cour de Comptes*) also conducts periodic reviews.

Staff training

Most training is provided centrally by the Ministry of Sustainable Development for environmental inspectors of all services concerned. Inspector certification training includes a fundamental two-week training course for new employees and a basic training programme covering nine substantive areas from industrial risks to emergency management to information and communication. Beyond this, the DRIRE decides on further necessary training in annual performance appraisal meetings between individual inspectors and

their managers. Each inspector has a record of the formal training undertaken during his or her career. In addition, there is on-the-job training through tutorship of new recruits by more experienced staff.

Measuring and adjusting the impact on the regulated community

The Directorate General for the Modernisation of the State in the Ministry of the Budget and Public Accounting conducts assessments of regulatory impact of draft legislation. This is part of a larger better regulation initiative of the French government which is expected to adopt in the near future an action plan for the reduction of administrative burdens. The tools intended to be used to evaluate the administrative burden of a regulation include the Standard Cost Model (as in many other European countries) and two French methodologies: for the administrative costs of government agencies and for the financial impact on businesses of obtaining government decisions. However, presently there are very few (if any) studies evaluating the impact of environmental regulations on the regulated community, including the impact on competitiveness.

Notes

1. The term *installations classées* is officially translated by the French Ministry of Sustainable Development as *classified* installations but better corresponds to *listed* or *regulated* installations.

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PART II

Chapter 9

Japan

9.1. Key Features of the Legislative Framework Related to Compliance Assurance

With the exception of the Basic Environment Law (1993, last amended in 2006) and other horizontal laws, the laws either stand alone or work in combination with subordinate ordinances to form the framework of executive implementing regulations for environmental protection in Japan. The main medium-specific laws are the Air Pollution Control Law (1968, last amended in 2006), the Water Pollution Control Law (1970, last amended in 2006), and the Waste Management and Public Cleansing Law (1970, last amended in 2006). Other laws with particular relevance to environmental compliance assurance include:

- Law on Punishment of Environmental Crimes Relating to Human Health (1970);
- Law on Compensation and Prevention of Pollution-Related Health Damage (1987, last amended in 2006);
- Law on Settlement of Environmental Pollution Disputes (1970, last amended in 2001);
- Law Concerning Entrepreneurs' Bearing of the Cost of Public Pollution Control Works (1970, last amended in 2003).

The two key elements of Japan's national pollution control schemes are statutory environmental quality standards and statutory emission/effluent standards established in the secondary legislation. The emission and effluent standards are uniform and not industry sector-specific. For example, the effluent standards cover 15 general parameters ("living environment items") and 27 toxic pollutants. Total pollutant loads are also established for air pollutants in areas with serious air pollution problems and for water pollutants for bays and inland seas.

Most environmental laws include punitive provisions to deal with non-compliance. In addition, activities that may present risks to humans may fall under provisions of the Criminal Code or the Law on Punishment of Environmental Crimes Relating to Human Health.

A local authority may enact its own ordinances in order to regulate other pollutants and/or other facilities which are not regulated under national pollution control laws. The majority of prefectural governments have put in place more stringent emission and effluent standards through local ordinances in areas where the environmental quality standards are consistently exceeded (*e.g.* in the Tokyo Bay area).

9.2. Institutional Framework for Compliance Assurance

Central level

The Ministry of the Environment (MoE) has the main responsibility for regulation of air, water, and soil pollution; environmental monitoring; waste prevention and management; and protection of biodiversity. The Ministry is also responsible for the formulation and implementation of environmental policies, plans, guidelines, and standards. The MoE defines regulated substances, sets environmental standards, and designates the scope of regulation.

The MoE does not have a separate unit dealing with compliance and enforcement issues. However, the staff of its seven Regional Environment Offices can conduct site inspections in cases of major accidents or other emergencies (*e.g.* natural disasters). The Regional Offices also co-ordinate among the prefectures, if necessary, the control of movement of hazardous waste within Japan, as well as its export and import.

Other ministries with environmental management responsibilities include:

- Ministry of Agriculture, Forestry and Fisheries: management of natural forests, conservation of fishery resources, promotion of sustainable agriculture, and regulation of agricultural chemicals;
- Ministry of Economy, Trade and Industry (METI): promotion of energy conservation, development of technology for industrial pollution prevention and control, and recycling of industrial waste (it has a cross-sectoral environmental unit); and
- Ministry of Land, Infrastructure and Transport: pollution control for road vehicles, development of sewerage infrastructure, restoration of rivers, and prevention of coastal zone pollution.

In addition, *expert councils* provide valuable support to environmental decision-making. There are several councils under the auspices of the MoE. The Central Environment Council is the top MoE advisory panel. Other ministries also have councils whose scope includes environmental issues.

The Environmental Restoration and Conservation Agency is an independent administrative institution which collects funds for compensation of environmental damage, compensates damages of pollution victims, and provides funding to local governments for pollution prevention activities.

Sub-national level

The responsibility for the implementation and enforcement of national environmental laws lies mainly with the governments of Japan's 47 prefectures. There are several dozen nationally designated metropolitan area municipal governments (usually for cities with a population over 500 000) that have environmental responsibilities equal to those of the prefectures. Environmental departments in prefectural and municipal governments are structured in accordance with medium-specific programmes, and some prefectures also have local environmental offices. Other municipal governments do not have environmental regulatory responsibilities (just municipal waste management functions).

For certain pollutants or areas, prefectural governments and ordinance-designated municipalities can set local emission standards that are more stringent than those in national legislation. Upon the Minister of Environment's order, they can also establish regional pollution control programmes with special regulatory measures or requirements for severely affected areas. Prefectural governments receive environmental notifications from regulated facilities, issue licences for waste management installations, collect self-monitoring reports and conduct site inspections. Inspectors are officially members of the prefectural government. There is no institutional or staff separation between the permitting and inspection functions.

In the execution of their regulatory enforcement functions, prefectural governments frequently co-operate with prefectural police, relevant tax authorities, and other agencies (for example, by jointly conducting site inspections of waste treatment facilities). In cases

where national and local governments have conflicting opinions, and a solution cannot be found through administrative processes, it is possible to use independent dispute resolution processes. Different bodies (*e.g.* the Central and Local Government Dispute Management Council) review cases and provide recommendations depending on the parties involved.

9.3. Regulatory Regimes

Regulated community

For most regulatory regimes, the scope of application is identified by the national government through cabinet orders and ministerial ordinances. Normally, the definition of regulated entities, applicable regulatory provisions, special regimes for SMEs, and regulatory transition periods are discussed in stakeholder councils, such as the Central Environment Council. Local governments identify which individual facilities are to be regulated.

The size of the regulated community is defined separately for different regulatory regimes. For example, over 290 000 facilities are regulated under the Water Pollution Control Law; 92 000 facilities are "soot and smoke emitting facilities" and 10 000 are "general particulate matter emitting facilities" under the Air Pollution Control Law.

Notifications and licences

New regulated facilities under the Air Pollution Control Law and the Water Pollution Control Law are required to submit a *notification* to the prefectural governor (or the mayor in ordinance-designated cities) 60 days prior to their establishment. If a facility has submitted a notification but fails to meet emission or effluent standards, or, where applicable, total pollutant loads, the prefectural governor may order the operator to modify the facility's design or technological process or to abandon the development project altogether. No other formal conditions are imposed on operators as part of the notification process (self-monitoring and reporting requirements are set in ordinances). Notifications usually do not have validity limitations. However, a new notification is required in the event of partial modification of a facility.

Waste treatment and disposal facilities regulated by the Waste Management and Public Cleansing Law are required to apply for a *licence* from the prefectural governor (or the mayor in ordinance-designated cities). Municipal waste management facilities operated by municipalities themselves do not require a licence. If an applicant does not meet design or operational standards, the prefectural governor will refuse the licence. Licence decisions and conditions can be appealed by the operator or any directly affected party to the MoE under the Administrative Appeals Law or to a court. Licences are valid for five years. The management of waste from the moment of its generation through storage and transportation to disposal is tracked via industrial waste manifests (similar to those in the US) which are controlled by competent prefectural or municipal authorities.

Negotiated agreements

Building consensus among industries and prefectural and municipal authorities is an important feature of compliance assurance in Japan. Although usually not legally binding, *Local Pollution Control Agreements* (LPCAs) between a prefecture, a municipal government, and an operator are very commonly used to achieve environmental goals. LPCAs are often directly negotiated between local governments and individual polluting facilities, allowing case-by-case determination of emission limits and self-monitoring and

reporting arrangements. LPCAs customise' environmental regulations to fit local conditions. They typically focus on problem-specific environmental media and/or groups of pollutants. To date, over 40 000 facilities have been party to an LPCA.

The public is seldom party to the negotiations, and most agreements are not open to public scrutiny. Nonetheless the industry's compliance with negotiated agreements is very high, as local governments commonly link positive decisions on notifications and permits with the signature of such agreements. The MoE does not oversee the implementation of LPCAs.

Voluntary initiatives

In addition, all major branches of Japanese industry, from manufacturing to distribution, transport and construction, have adopted voluntary action programmes. They include quantitative targets and timelines concerning, for instance, control of greenhouse gas emissions, the reduction, reuse and recycling of waste (3Rs), and reduced use of hazardous chemicals in manufacturing. Businesses consider voluntary initiatives as a way to reduce the potential of further government regulation.

The Japan Business Federation (Keidanren) adopted a Charter of Corporate Behaviour which included important environmental principles already in 1991. It regards corporate environmental management as a key part of a global competitiveness strategy of Japanese businesses. The Keidanren Voluntary Action Plan for the Environment (1997) created a framework for the implementation of environmental measures at all levels of Japanese industry by declaring specific objectives and conducting follow-up surveys each year.

9.4. Compliance Promotion

Information dissemination to the regulated community

The MoE does not have a permanent programme to promote environmental compliance among businesses. However, when new regulations are introduced, the MoE, often in collaboration with METI, prepares documentation, brochures, and general materials to serve as information and educational materials for industry. Those materials are distributed to industry through local governments, industry associations, etc. The MoE also provides information through the websites of the Ministry and related organisations.

Local governments provide their own regulatory information to business organisations, make explanatory presentations, conduct training sessions for corporate environmental officers, distribute user-friendly awareness materials, etc. Local authorities also send representatives to meetings of local chapters of industrial associations to disseminate information.

Promotion of good environmental management

The MoE encourages companies to adopt environmental management systems, including ISO 14001, Eco Action 21 and Environmental Accounting Standards. The Development Bank of Japan has created a system to support businesses that promote environmentally conscious corporate management. This system uses environmental screening to evaluate the level of corporate environmental management and reflects the findings in the conditions attached to the financing offered by this bank. However, there are no regulatory incentives for companies to obtain EMS certification.

Financial incentives

The Japanese government provides industry with tax preferences (*e.g.* reductions in the local corporate tax) as well as low-interest loans and sometimes grants for cleaner and climate-friendly technologies. The eligibility criteria are set by the national government. Direct financial support is offered by the governmental financial institutions: the Development Bank of Japan (for large industry) and by the Japan Environment Corporation (for small and medium-sized enterprises).

9.5. Compliance Monitoring

Compliance monitoring instruments

Local governments responsible for environmental enforcement conduct site inspections. Inspections are medium-based only and are predominantly unannounced. The MoE does not dictate the frequency of inspections, which is left to the discretion of competent local governments. Some prefectural and ordinance-designated municipal authorities have set prioritisation criteria to target their inspections. Those criteria usually include the total volume of pollution emission/effluent, release of hazardous pollutants, and compliance record. The number of inspections remains fairly stable over time.

Many inspections include emission/effluent monitoring to verify the reported self-monitoring data. Local governments may conduct their own measurements of facilities' pollutant releases and have the samples analysed by accredited laboratories or contract some parts of the process to specialised private sector organisations. Some local governments are trying to look beyond compliance with emission/effluent standards, at production processes, but there is no cross-media integration of inspections.

The practices with respect to formal inspection procedures vary between local governments. Although the MoE issues guidelines for local governments to create site inspection manuals, they are not always followed by prefectural and municipal authorities. For some programmes, there are local government manuals, for others simple checklists, and some authorities do not provide any formal guidance to their inspectors. Inspection reports as well as official communication between the authority and the operator are available to the public upon request.

Self-monitoring

Under the Air Pollution Control Law and the Water Pollution Control Law, it is mandatory for all regulated facilities to conduct either continuous or periodic measurements of emissions and effluents, to record the measurement results, and to keep the records for a certain period. Self-monitoring is usually done by an accredited laboratory. Regular reporting of results is not required by law except for dioxins.

9.6. Non-compliance Response

Administrative enforcement

Administrative actions in Japan are designed to guide or order operators to comply with the requirements, but not to impose penalties. Competent local governments promote regulatory compliance by businesses mainly through inspections and by issuing *administrative guidance* based on inspection results. Most businesses actually take steps to comply with the guidance: the intervention of the authorities is already considered as a

sanction, and the potential loss of reputation for Japanese companies is likely a more important deterrent than penalties.

If administrative guidance is insufficient, the competent local government may issue an *order* to improve operations or take corrective action, or to suspend operations. Such administrative sanctions are imposed if the emission/effluent limits are exceeded significantly or repeatedly, or a major corrective action is required (however, this happens rarely). In addition, there are provisions for the local government to require the violator to take clean-up action (*restoration order*). In 2000, the waste management regulations were reinforced so that a restoration order can be issued not only in cases of "serious damage" but "in occurrence of any damage", which has led to an increase in the number of administrative sanctions taken against industrial waste management offences. There are practically no cases of non-compliance with an administrative order.

Details of environmental enforcement decisions (names businesses that have been sanctioned, reasons and details of sanctions, etc.) by local governments are not publicly disclosed. However, based on Japan's Information Disclosure Act (1999), it is possible to request government ministries and agencies to disclose information relating to individual sanctions.

To appeal against an administrative sanction, the operator or any directly affected party may request a review by the MoE based on the Administrative Appeal Law or file a suit in court. At the same time, sanctions (unlike licence decisions) are rarely appealed in Japan.

Criminal enforcement

Criminal enforcement is very rare in Japan, with most enforcement actions related to waste management violations. The decision to initiate prosecution is at the discretion of the competent local government depending on the extent of environmental impact and the operator's intent (*e.g.* for an intentional illegal discharge or falsification of records). The public prosecutor may not pursue the case if he deems it unnecessary because of the character, gravity, or the operator's behaviour subsequent to the offence.

Penalties are imposed in a first instance by a Summary Court (for minor criminal offences) or in a District Court (one in each prefecture) for felony cases. Appeals are considered by the High Court. Criminal penalties against a company are always accompanied by a conviction of its employee responsible for the violation. Although the maximum penalty levels stipulated in the law are the same for physical and juridical persons, fines for companies are usually much larger than for individuals.

Civil liability

When there is a breach of environmental law, the violator can be liable for the damage caused. Japan's environmental statutes stipulate strict liability, which does not require proof of negligence or violation of regulatory standards. There are formal compensation schemes in place whereby public institutions can through simple, non-judicial procedures (including eligibility criteria) recognise pollution-related injury and quickly provide redress to victims.

Pollution victims who are not covered by the special government compensation schemes can sue the polluters in court. The extent of the damage is then assessed on a case-by-case basis in each lawsuit. There have also been cases in which compensation was demanded from the national government, for example, for the government's failure to enforce regulations. However, under the Japanese Civil Procedure Code, class action and third-party lawsuits are not allowed.

9.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

The MoE's funding for compliance assurance is not clearly earmarked in its overall budget. The amount of resources allocated by local governments for the implementation of environmental regulation is, essentially, at their discretion. In recent years, the budget funding for the central and local governments has been declining, along with resources on compliance assurance.

In addition to general budget funding, there are administrative fees for industrial waste management licences whose maximum rates are set in the national legislation. The actual rates are set locally, often on the basis of staff costs associated with the issuance of licences. The revenues go into the general budget of the licensing authority but are earmarked for waste management activities.

Strategic planning

In March 2007, the MoE and METI released "Modalities of Environmental Management for Pollution Prevention" and "Environmental Management Guidelines for Pollution Prevention in Industry". These reports emphasise the necessity of putting into practice "company-wide environmental compliance" and recommend a number of concrete measures that businesses can implement to achieve it: environmental management on-site and in the factory, company-wide environmental management, employee education, and stakeholder communication.

The Guidelines recommend specific initiatives that should be taken by competent local governments, including review of notifications and self-monitoring reports, inspections, communication with businesses, and awareness-raising activities. However, they do not assign programmatic priority to any particular segment of the regulated community.

Priorities corresponding to local environmental problems are sometimes established at the provincial or municipal level. At the same time, the general goal is 100% compliance with the existing laws and regulations and the encouragement of industry to go beyond compliance.

Performance assessment

The MoE does not conduct any direct assessments on the success of environmental compliance assurance efforts. It does, however, release annual statistics on regulatory administrative tasks (*e.g.* number of on-site inspections, number of administrative sanctions, etc.). In many cases, data indicating the achievement of environmental quality standards can be used to evaluate success of environmental policies, and in some cases data showing the reduction of pollution burden (*e.g.* for dioxins, total VOC emissions, etc.) can be used as supplementary indicators. In waste management regulation, the performance indicators are better developed and include the number of cases of illegal waste dumping, percentage of recycling of industrial and municipal waste, and the number of waste-related complaints.

Japanese government ministries and agencies are required to conduct policy evaluations under the Government Policy Evaluations Act. The MoE also conducts internal evaluations every year and discloses their results publicly after evaluation by a policy evaluation committee of external experts. Annual evaluation reports are also produced and published by local governments who use their sets of output and outcome indicators which sometimes go

beyond the national ones. There is no evidence that these evaluation reports play a significant role in the annual planning process.

Staff training

The Ministry of the Environment has been making efforts to enhance the capacities of local governments to implement environmental regulations by conducting trainings every year at the National Environmental Research and Training Institute (NERTI) established in 1973. In 2006, NERTI offered 47 training courses, mainly for local government personnel. Most of the training courses were one or two weeks long. At the prefecture level, training is also organised for municipal officials. For example, in Chiba, this is done by the Environmental Research Centre under the auspices of the prefectural government.

There are also mechanisms to exchange experiences between local inspectors. For example, in the Tokyo capital region, there are a "liaison council" between local authorities and networks for air, water, and waste inspectors. The MoE also organises national conferences on specific issues, including compliance.

Measuring and adjusting the impact on the regulated community

When new legislation or regulations are introduced, the MoE conducts an impact analysis and releases the findings publicly. Such regulatory impact assessments are conducted as the Ministry's internal studies. To the extent possible, they include quantitative analyses of the expected benefits and possible costs of the new legislation, compare possible alternative measures, etc.

Before new environmental laws and regulations are introduced, advisory bodies such as the Central Environment Council discuss their content and necessity. The Council's members include representatives of industry, and as a result, deliberations often include a debate about corporate competitiveness. Once laws and regulations have been enacted after this type of consensus-building process, enforcement is usually not accompanied by consideration of the impacts on corporate competitiveness.

There are no known studies on competitive impacts associated with different compliance assurance instruments in Japan. In general, good environmental performance is considered by Japanese companies as an important contributor to their competitiveness.

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PART II

Chapter 10

Netherlands

10.1. Key Features of the Legislative Framework Related to Compliance Assurance

Dutch legislation comprises parliamentary acts, decrees and ministerial ordinances.

- The Environmental Management Act (EMA, 1993, as amended) governs the planning framework for environmental authorities, integrated permitting (licensing), compliance monitoring activities, and harmonisation with other environmental laws. The Facilities and Licensing Decree (1993, as amended) specifies the roles and responsibilities of the national, provincial and municipal authorities under the Act. The EMA is a framework act that is supplemented by general administrative orders, provincial and municipal regulations.
- The Pollution of Surface Waters Act (1969) established the system of regional Water Boards and the national Water Inspectorate. This law, along with other water-related legislation (*e.g.* on groundwater) will be replaced in 2009 by a new Water Act implementing the EU Water Framework Directive.

The Enforcement Powers Improvement Act (2001) stipulated the powers of various competent authorities (the central government, the provinces, and the municipalities). The division of responsibilities was further clarified in guidelines at different administrative levels.

The EMA and its implementing decrees do not themselves stipulate penalties for non-compliance. Environmental infringements are covered by the Economic Offences Act which refers to relevant articles in environmental laws and regulations and establishes both administrative and criminal sanctions for violating them. Criminal penalties are also stipulated in the Criminal Code as well as in several special laws and decrees.

10.2. Institutional Framework for Compliance Assurance

Central level

The Ministry of Housing, Spatial Planning and the Environment (VROM) co-ordinates and oversees national environmental policy. The VROM Inspectorate, whose Inspector-General reports directly to the Minister of the Environment and Spatial Planning is responsible for direct supervision of compliance with environmental legislation with respect to waste shipment, nuclear and military installations, and selected national priority issues. It also oversees the implementation of regulations by provincial authorities and municipalities. The Inspectorate employs about 650 staff who work mostly out of *five regional offices*. Its Intelligence and Investigation Service is in charge of the investigation, under the authority of the Public Prosecution Service, of complex criminal violations within VROM's field of jurisdiction.

The Ministry of Transport, Public Works and Water Management is responsible for water quality. Within this ministry, the Directorate for Water Affairs sets water policies while the State Water Board is the implementation directorate for the country's major water bodies (the sea and most important surface waters). The State Water Board has

10 regional offices and is responsible for permitting, compliance monitoring and enforcement within its area of jurisdiction. The Transport and Water Management Inspectorate supervises the execution and enforcement of the water legislation by the State and regional Water Boards (see below).

Among other national authorities, the Ministry of Agriculture, Nature and Food Quality oversees nature conservation, and the Ministry of Economic Affairs regulates mining installations.

Sub-national level

There are twelve provinces and approximately 440 municipalities in the Netherlands. The *provincial authorities* are responsible for the licensing, inspection, and enforcement with regard to the majority of (non-farm) IPPC installations, with the exception of nuclear and military installations which are regulated at the national level and a small number of IPPC installations regulated by the *municipal authorities*. The permitting and inspection functions are clearly separated within the competent authorities. The quality assurance procedures require that the responsibility for individual installations change from one inspector to another at least every four years to avoid issue blindness and conflict of interest.

At the provincial level, one or several departments of the Provincial Executive may be in charge of permitting, inspection, and enforcement. In municipal governments, the Municipal Executive is responsible for these functions. There are 26 regional Water Boards, each comprising several municipalities, which are historically independent entities responsible for the management of non-national water bodies: flood control, water abstraction, water quality, and treatment of urban wastewater. They issue permits for wastewater discharges and conduct compliance monitoring and enforcement. In addition, 26 police regional environmental teams and 6 inter-regional teams conduct investigations of environmental crimes in co-operation with VROM and other competent authorities. The Public Prosecutions Department co-operates with competent administrative authorities by sharing information and establishing common enforcement priorities (although the process of information exchange often proves to be cumbersome).

The National Environmental Enforcement Cooperation Secretariat (LOM), a small independent body established by VROM, the Association of Provincial Authorities, the Association of Dutch Municipalities, the Association of Water Boards, and several other stakeholders facilitates co-ordination between about 500 authorities competent in environmental enforcement in the country. The provinces are formally responsible for the interagency co-ordination of environmental enforcement activities on their territory.

There are a significant number of cases where municipal authorities have established *shared service centres* executing permitting and compliance assurance responsibilities on their behalf or provide information support to the municipalities. There are 26 such centres nationwide bringing together 150 municipalities. The most prominent case of such co-operation is the Rijnmond Environmental Protection Agency (DCMR) in the larger Rotterdam area in the Province of South Holland. DCMR, created in 1972 by 18 municipalities (including Rotterdam) and the provincial government, is the largest regional environmental agency in Europe with about 550 staff.

VROM, in co-operation with the key stakeholders, has set up InfoMil to facilitate environmental policy implementation at the provincial and municipal levels. InfoMil is a centre of expertise which manages and makes available relevant information in the field of

BAT, environmental technology, etc. It provides information to competent provincial and municipal authorities and facilitates consultation between the competent authorities on major implementation issues.

10.3. Regulatory Regimes

Regulated community

There are about 400 000 environmentally regulated installations in the Netherlands, 11% of which must obtain a licence while others are regulated through general binding rules. The jurisdictional division of the regulated community was made in the Facilities and Licensing Decree under the EMA. The division took place before the EU IPPC Directive, so out of 2 542 IPPC installations in the Netherlands 1 976 (85% of which are farms) fall under municipal jurisdiction. Provinces regulate 523 industrial IPPC installations and 43 large farms. There is national guidance on how to calculate the necessary human resource capacity for competent authorities depending on the number of regulated installations.

Permits (licences)

The EMA stipulates a co-ordinated regime for environmental, water, and building licensing. Conflicts between the requirements of the different laws are avoided because of the system of issuing three licences. An operator must apply for the three permits in parallel, and if either the water or the building licence is not granted, the environmental licence is also refused.

Environmental permitting is integrated and based on BAT, with emission limit values set with reference to EU BREFs and national BAT guidance for 36 industrial sectors. The permitting authority also has a duty to ensure that applicable environmental quality standards are complied with. Installations with poor compliance records are usually prescribed extra licence conditions, particularly in terms of monitoring and reporting. The provincial authorities review licences at least every 5-7 years to take account of developments in BAT as well as policies and regulations.

The General Provisions for the Environment Act (WABO) will introduce major changes into the permitting system and is expected to be effective January 1, 2010. It will create a "*land use and development permit* by integrating about 25 existing licences and permits, including the environmental licence and the building permit, as well as provincial and municipal licences. Environmental impact assessment, when required for a given activity, will become part of the permitting procedure. The land use and development permit will be issued by the provincial or municipal governments. However, the permit for discharges into water bodies (while put under the same cover as the integrated permit) will remain in the competence of the Water Boards, and will not be integrated in the new system.

General binding rules

Approximately 355 000 small installations are not required to obtain an environmental licence, including 800 installations regulated by the provinces. Instead the government has been prescribing general binding rules by industry branch. There can be simple GBR-based permits (in about 10% of cases – with additional requirements set by the competent municipality) or simple declarations of conformance with the GBR. Municipalities (and provinces, where applicable) are responsible for enforcing general binding rules.

Under the recent General Activities Act (2008), the sector-specific GBRs are replaced by comprehensive, cross-sectoral, activity-based GBRs. One exception is agriculture: farms are regulated under a separate Environmental Agriculture Decree, which could be integrated with the General Activities Act in the future. The new GBRs integrate environment and water-related conditions and heavily rely on self-monitoring. The majority of businesses will soon be able to apply for GBR-based permits online.

Negotiated agreements

Environmental agreements in the Netherlands, often referred to as *covenants*, make industry accountable for achieving pre-established targets. Strictly speaking, these are not voluntary agreements. Only the decision to enter into an agreement is voluntary, while the agreed targets are binding for the sector as a whole and are reflected in the conditions of licences for individual installations. As industry volunteers to work toward ambitious environmental goals, the government agrees not to introduce new conditions and targets before companies have had an appropriate length of time to demonstrate reasonable' progress. If a company fails to adhere to agreements made at the industry sector level, the government can make the terms of its environmental licence more stringent.

Since 1992, environmental agreements have been concluded with all major industry sectors, and the participation by firms is very high (*e.g.* 91% in the chemical industry). The system is managed effectively because the vast majority of companies belong to trade associations. However, covenants have become significantly less attractive to the Dutch industry with the introduction of emission limit values for individual installations required by the IPPC Directive.

10.4. Compliance Promotion

VROM makes regulatory information available on its website and produces brochures, flyers and fact sheets on different compliance-related issues. VROM also co-operates with industry associations and competent authorities in their compliance promotion efforts, mostly in connection with specific compliance and enforcement initiatives. In addition, the Facilitation Organisation for Industry (*FO-Industrie*) is a service organisation funded by VROM which provides businesses with regulatory information and assists industry with the implementation of covenants.

The Water Boards have established the "Water Service" knowledge centre which provides technical assistance to the regulated community on water-related issues. Provincial and municipal authorities are also engaged in compliance promotion activities, particularly through direct contacts during site visits, providing information on regulatory requirements and best practices, but not technical assistance. Although there are usually no dedicated compliance promotion programmes at the provincial and municipal levels, there are examples where municipalities, often in co-operation with VROM, undertake project-based compliance promotion in reaction to identified specific needs of the regulated community.

Industrial associations also disseminate regulatory information relevant for their members. They often address questions to the InfoMil helpdesk which, even though not mandated to provide compliance assistance, routinely answers pertinent questions from the regulated community.

Operators who have certified environmental management systems can apply for and obtain permits that are less detailed and prescriptive. The inspection frequency may be indirectly related to the presence and quality of the operator's EMS, but ISO 14001 certification in itself is not a reason for special treatment. It is the actual compliance performance that counts.

10.5. Compliance Monitoring

Compliance monitoring instruments

Inspections are conducted by the VROM Inspectorate (for nuclear and military installations and hazardous waste shipment activities), the Mining Inspectorate (for mining installations), State and regional Water Boards, provinces, and municipalities. Most inspections are carried out by municipalities due to the large size of the regulated community under their jurisdiction. Site safety inspections are conducted by the Labour Department and the Fire Brigade, often in co-ordination with the environmental authorities.

Several pilot initiatives have been undertaken to conduct inspections jointly by several regulatory authorities (*e.g.* with Water Boards) in order to reduce the inspection burden on the regulated community. The inspection bodies have created so-called "front offices" – co-ordination units for specific industry sectors at the national and provincial levels. For example, VROM has a front office for the chemical industry and waste. While individual authorities keep all their responsibilities and powers, they can, when appropriate, delegate certain tasks to other government agencies. However, the interagency co-ordination in compliance monitoring remains in its early phase. More cross-sectoral integration of compliance monitoring is expected with the implementation of the integrated land use and development permit.

In order to respond promptly to accidents and complaints, the VROM Inspectorate maintains a Reporting Point – a hotline for reporting acute environmental accidents and other crisis situations that belong to the policy areas of VROM. The VROM Reporting Point forwards reports to relevant authorities. Provincial inspectorates and some municipalities operate similar 24-hour *Environmental Information Point* services.

The Netherlands was one of the first countries to start implementing the EU "Recommendation on Minimum Criteria for Environmental Inspection" (2001). A substantial part of the EU Recommendation has been integrated into the EMA. In 2002-2005, a national project was carried out by all environmental inspectorates at the national, provincial and local levels to ensure a "professional environmental enforcement process" within these agencies.

Targeting of compliance monitoring activities

In determining the frequency and types of inspection appropriate for individual installations, the provinces may use the system of compliance and risk rates developed by VROM as part of its Compliance Strategy. Sometimes provinces use their own prioritisation methods. DCMR has developed a fairly sophisticated preventive "tailor-made enforcement" approach based on environmental risk, environmental impact, and environmental performance of each installation. There is also LOM guidance on compliance monitoring, used mostly at the municipal level, which divides installations into five categories based on their environmental impact and recommends respective inspection frequencies.

Self-monitoring

All large industrial installations (mostly IPPC ones) are required under the EMA to submit annual environmental reports. Data supplied (often electronically) by the installations are verified by the competent authority, and sometimes additional information is requested. SMEs usually do not have self-monitoring and reporting requirements.

As self-monitoring results cannot be used for enforcement purposes, enforcement authorities collect their own data, if required. Emission and noise monitoring can be done during regular inspections, or when an inspection is triggered by a complaint. However, there is a strong trend to reduce the volume of discharge monitoring by inspectorates and rely more on self-monitoring. For GBR-regulated installations, monitoring is carried out only in cases of incidents and complaints. Water Boards conduct wastewater discharge monitoring, primarily to assess the wastewater tax due from installations discharging into water bodies.

10.6. Non-compliance Response

Administrative enforcement

Administrative enforcement tools available to national and provincial authorities, municipalities, and Water Boards are the same. They range from a fine to a licence suspension or revocation (in extreme cases of long-term or high-frequency violations) to a remediation intervention by the competent authority with subsequent recovery of costs from the operator. A fine can be imposed for every day beyond the deadline set for the operator to correct the violation. Revenues from the fines go to the state, provincial, or municipal budget, depending on the competent authority. Administrative sanctions can be appealed by the operator first to the competent authority itself and, in the second instance, to an administrative court. Under the Dutch Freedom of Information legislation, enforcement information is available to the public upon formal request to the competent authority.

Upon detection of a violation, the competent authority would most of the time issue an informal verbal warning. This can be followed by more informal contacts between the offender and the competent authority before a formal warning is issued. In a general trend, many provinces and municipalities now want to modify their enforcement procedures to skip the informal warning step and issue official warnings upon discovery of an offence.

An official warning ("advisory notice") states the infringement, prescribes corrective actions, and sets a time limit for the correction of the violation. Upon the expiration of the deadline, a second (unannounced) inspection verifies whether the violation has stopped. If not, there may be a second warning letter, with a new compliance timeframe, this time mentioning the possibility of sanctions. The immediate application of sanctions, without prior warning, takes place in cases where the violation is having or may have a seriously harmful effect on the environment, health, safety or public order.

About 80% of all violations are corrected without the use of any formal actions by the competent authority, while fines are imposed only in a very small fraction of cases. Fines are not imposed if the violation has been corrected in a timely manner and has not been committed deliberately, is clearly an isolated incident, is of limited extent and impact, and has been committed by an operator with an otherwise good compliance record. In the rare cases where a penalty is imposed, its size is determined on a case-by-case basis and is linked to the financial benefit that the operator enjoys by continuing the violation, to the cost of the required corrective action, and, where possible, to the extent of the

environmental damage. The compliance record of the offender is also taken into account in determining the fine.

There are no legal limits for administrative penalties, but competent authorities usually have guidance documents with schedules defining the types of violation, timeframes for corrective action (ranging from one day to three months), penalty rates per day, and a maximum penalty per violation. Fines are generally higher at the provincial than at the municipal level.

VROM issues guidelines to the other authorities on enforcement tools for specific issues within their competency. Among others, they provide guidance for "tolerance", where the competent authority does not take action against an offender even though it is aware of the violation. Tolerance is only acceptable in situations of *force majeure*, in a transitional stage for a limited period, or if strict enforcement would lead to a situation harmful for the environment. In practice, tolerated are mostly offences that can be quickly legalised, often with interim conditions attached. If the conditions are not met by the operator, enforcement measures are taken.

The Dutch Civil Code stipulates the possibility of an agreement whereby a public (usually provincial) authority and an offender, in an attempt to resolve or avoid a dispute, agree that the authority will not use (further) administrative sanctions in exchange for the offender's commitment to return to compliance within a certain period of time. In addition, the offender agrees explicitly not to exercise its right to appeal an administrative sanction in the event that it fails to correct the violation by the deadline. The agreement may also include a deposit by the offender of a certain sum of money which is forfeited if the operator does not reverse the offence in time. However, this provision is rarely used in practice.

Criminal enforcement

In general, environmental crimes are covered by the Dutch Criminal Code, under which the endangerment of human life as a result of pollution of air, surface water or drinking water, or soil is considered a crime. The main penalties are fines, unpaid labour, and imprisonment, with deprivation of certain rights and confiscation of property also possible. The particularity of the Dutch system is that environmental crimes are considered economic crimes and can be prosecuted under the Economic Offences Act. The wide competences provided by this law facilitate the prosecution of environmental crimes.

In the Netherlands, criminal law can apply in case of both actual and potential danger. An offender can be prosecuted for any violation of environmental legislation and even non-compliance with an environmental licence, but in practice criminal prosecution is pursued (often in parallel with administrative actions) when severe environmental damage has occurred.

Criminal enforcement begins with a prosecution report written by special criminal enforcement officers of the competent administrative authority or by the police and forwarded to a public prosecutor. The public prosecutor may send a warning letter to the offender and, upon its effect, decide whether to pursue the case. The prosecutor (and even in some cases the police) can propose a settlement to the offender in exchange for a payment of a significant fine. Even if a criminal indictment is issued, it does not mean that prosecution will definitely follow. In making its decision, the Public Prosecutions Department considers questions of evidence and the likelihood of the case's success.

Criminal cases are considered in the first instance by a district court, with appeals possible to the Court of Appeals and the Supreme Court.

Civil liability

A 1999 regulation established corporate liability for environmental damage. Damage is usually assessed as the benefit unlawfully accrued as a result of non-compliance. There is a possibility for private parties to demand compensation following an "unlawful act" according to the Dutch Civil Code. The courts can order the offender to repay or repair existing damage, or prevent further damage via a prohibition order. Recourse through civil law is available to affected individuals and NGOs whose statutes refer to the protection of environmental interests. However, NGOs may only ask the court to establish the operator's civil responsibility and to issue an injunction, but they may not claim damage compensation (unless it is a reimbursement for a clean-up action undertaken by the NGO itself). There is no culture of civil liability claims in the Netherlands, so companies are eager to reach a settlement with potential plaintiffs before they file a suit in court.

Citizen enforcement

Citizens and NGOs on their behalf can take actions if competent authorities do not adequately enforce environmental requirements. First, they can petition the authority and, if that is not enough, can file a case against the authority in an administrative court. A competent authority's "tolerance" (non-enforcement) decisions can also be appealed in an administrative court.

Similarly, for criminal enforcement, citizens can contact the police, or an NGO can go directly to a public prosecutor. If a prosecutor decides not to pursue the case, a suit against the violator can be filed in a criminal court. In some cases, NGOs pursue the administrative and criminal routes at the same time. Civil action, on the other hand, is resorted to less often because it is perceived as expensive and time-consuming.

10.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

Funding for the VROM Inspectorate as well as compliance assurance activities by the provinces and municipalities is decided by the respective administrations, all of it coming from general budgets.

All charges for environmental licences were abolished in the mid-1990s. There are no charges for monitoring and sampling undertaken by the inspectorate, either. However, a possibility is now discussed that the new "land use and development" permit under the General Provisions for the Environment Act may again have a processing fee associated with it (there currently are fees for the building permit).

Strategic planning

General national enforcement priorities are set by LOM. At the provincial level, priorities are established in a four-year Provincial Environmental Management Plan, reflecting those of the National Environmental Management Plan and equivalent programmes related to water management and spatial planning. In addition, specific priorities are sometimes added to the plan on the basis of evidence of non-compliance issues in the province. Some municipalities also have specific priorities.

The VROM Compliance Strategy (2003) is structured around two tracks:

- The task-oriented track starts with regulatory requirements that need to be enforced and determines appropriate interventions based on the knowledge of the rate of non-compliance and the reasons for it (*e.g.* as summarised in the so-called "Table of Eleven");
- The problem-oriented track starts with an analysis of environmental problems and risks and determines the mix of interventions based on specific environmental goals to be achieved.

To support the Compliance Strategy, a system of estimated compliance and risk rates has been developed to determine priorities for inspection activities.

Performance assessment

Most provinces and some municipalities have internal quality management systems certified to the ISO 9001 standard. The performance is assessed by using internal and external audits. The Association of Municipalities is currently developing a benchmarking scheme (with voluntary participation) to compare performance of individual municipalities in environmental compliance assurance.

Provincial and municipal inspectorates have recently been subject to performance audits by the VROM Inspectorate. An audit results in a list of recommendations, mostly with respect to internal management of compliance assurance activities, which should form the basis of an improvement programme of the relevant competent authority. Two rounds of such comprehensive audits have been conducted for the municipalities and one for the provinces. From now on, the VROM inspectorate is planning to make the performance reviews selective and targeted on competent authorities with known management problems.

A comprehensive compliance indicator monitoring system has been developed based on the OECD input-output-outcome model to assess performance of compliance assurance activities. The VROM Inspectorate used compliance indicators for the first time in 2006. So far, very few outcome indicators are measured by the provinces and municipalities. The use of compliance rates is limited due to the challenges of creating a meaningful indicator. In a positive example, DCMR has been working on the calculation of a non-compliance index based on a number of installations monitored and a number of violations of core licence conditions. It is expected to be refined further over the next few years.

Staff training

The VROM Inspectorate has an Inspectorate Academy as part of its Staff Department. In the Inspectorate, a certain amount of money (EUR 1 100) and time (10 working days) per inspector is assigned for capacity building on an annual basis. About 70% of the funding goes to the Inspectorate Academy which develops training programmes (80 such programmes were running in 2006), procedures and handbooks for inspectors. A significant share of the training activities is outsourced.

Most provincial and municipal authorities have a training programme, sometimes as part of the overall quality management system. Training is usually conducted by external organisations, including universities, special training institutes and contractors. InfoMil is an important player in organising and conducting inspector training activities. The training's success is evaluated as part of a team member's annual performance review.

Measuring and adjusting the impact on the regulated community

Reducing the time and resources that businesses have to devote to government inspections and other aspects of the "regulatory burden" is one of the main thrusts of the current Dutch "Modernisation of Government" programme. Each government ministry measured the administrative burden which it imposed on businesses through its regulatory activities. Better co-operation and co-ordination between inspection bodies, *e.g.* through the front-offices mentioned above, is an important element of this programme. The use of modern technology, such as electronic reporting, is also part of the new approach.

VROM has achieved its overall objective of a 30% reduction of the administrative burden on businesses by the end of 2007 compared to 2002 (the overall government objective was a 25% reduction). VROM's better regulation initiative launched in 2002 included 70 projects, including the simplification of waste regulations, harmonising requirements between the national and provincial levels, establishing a one-stop permitting system, and raising the effectiveness and efficiency of the environmental enforcement process. VROM solicits advice from businesses through committees and working groups on how to make different regulatory regimes more efficient.

VROM also uses extensively the regulatory impact assessment of new legislation: any legislative proposal must mention the administrative cost involved, and any new burdens must be compensated by reductions in existing regulations. The Dutch Advisory Body for Administrative Burdens (ACTAL) carries out assessments of the potential administrative burdens.

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PART II

Chapter 11

United Kingdom

11.1. Key Features of the Legislative Framework Related to Compliance Assurance

In the UK, the authority for environmental regulation resides with the "devolved" Administrations of England and Wales, Scotland, and Northern Ireland.[1] The legal frameworks are similar in all the Administrations but the powers are different in different Acts, Regulations and Orders. The Department for Environment, Food and Rural Affairs (Defra) and the devolved Administrations are responsible for transposing EU environmental Directives into national law.

The following are the main environmental laws and regulations affecting industrial pollution, waste management and water discharges in England, Wales and Scotland:

- The Pollution Prevention and Control Act of 1999 and associated regulations in all the Administrations implemented the EU IPPC Directive. The recent Environmental Permitting Regulations (EPR, 2007) for England and Wales (they do not cover Scotland or Northern Ireland) expanded integrated permitting to waste facilities and air emissions for certain industrial installations, presently covering the requirements of eleven EU Directives.
- The Environmental Protection Act of 1990 (amended by the Environment Act of 1995) regulates air emissions for certain industrial processes and establishes a system of licensing for waste management, except as provided for by the EPR.
- The Water Resources Act (1991) in England and Wales and the Water Environment (Controlled Activities) Regulations of 2005 in Scotland, require the permitting of wastewater discharges into water bodies.
- The Water Industry Act (1991) in England and Wales and the Sewerage Act (1968) in Scotland require the licensing of discharges to the sewer.
- The Water Act (2003) and the Water Environment and Water Services (Scotland) Act (2003) regulate water abstraction.

Maximum criminal penalties for violations are usually stipulated in the law, in the section on offences. The Regulatory Enforcement and Sanctions Act (2008) provides the regulatory agencies with a right to impose financial penalties and certain discretion to determine their size, subject to the introduction of further secondary legislation.

11.2. Institutional Framework for Compliance Assurance

England and Wales

While Defra and the Welsh Assembly Government are responsible for defining overall environmental policy and establishing the legal framework (as well as for natural resource management), the Environment Agency of England and Wales (established in 1996) is the primary environmental regulator. It is an independent public body responsible for the regulation of major industries, radioactive substances, licensing wastewater discharges and waste management, and contaminated land, and has a wide range of water management functions (including flood defence). The Agency's Head Office in Bristol is responsible for

producing more detailed policy and guidance, while 8 regional offices and 22 area offices (mostly based on water catchments boundaries) are responsible for operational implementation. The Agency has approximately 12 000 staff, of which about 1 000 are in the Head Office. Traditionally, permitting and compliance assessment in the Environment Agency was done for the same site by the same person. Recently, the Agency adopted a system with centralised permitting teams in four regional offices and inspections carried out by local area staff.

The Environment Agency and the Health and Safety Executive jointly form the Competent Authority for Control of Major Accident Hazards (COMAH) which administers accident prevention with respect to certain industrial installations (under the EU Seveso II Directive). The Environment Agency has also signed an agreement with the Association of Chief Police Officers to ensure effective co-operation during environmental incidents. In addition, the Agency is required to set up and consult Regional Environment Protection Advisory Committees (REPACs) which include key stakeholders (industry, local authorities, and NGOs).

Local authorities (which usually have an Environmental Health Department) manage the following environmental protection functions:

- Permitting, inspecting and enforcing against some IPPC installations and non-IPPC installations, for the latter with respect to air emissions only;
- Managing local air quality, including emissions from mobile sources;
- Dealing with land use planning and land contamination; and
- Enforcing legislation with respect to "statutory nuisance" – noise, odour, dust, and smoke. A local council officer can serve an "abatement notice" requiring the recipient to stop causing the nuisance and, if the notice is not complied with, resort to prosecution.

The Environment Agency and the Local Government Association signed a Memorandum of Understanding (1997) covering those aspects of environmental protection for which they both have some responsibility (*e.g.* air quality, contaminated land). However, disputes may arise when the Agency and the local authority regulate different activities at the same site, and in cases where they cannot be resolved by the regulators themselves, they are referred to the Defra Secretary of State.

Scotland

At the policy level, the Scottish Executive is responsible for the development of environmental policy and legislation. At the operational level, the Scottish Environment Protection Agency (SEPA) is the principal regulatory authority, with the same independent status as that of the Environment Agency. SEPA has a Head Office located in Stirling, three regional offices and 21 area offices responsible for daily operations. SEPA's responsibilities are close to those of the Environment Agency, with some major exceptions. SEPA and not local authorities, as in England, is responsible for regulating non-IPPC stationary air pollution sources. In addition, SEPA is not responsible for flood defence. SEPA has about 1 200 staff. Similarly to England, Scottish Natural Heritage is the Scottish agency responsible for nature protection. Local authorities in Scotland regulate only mobile sources.

In Scotland, there is no institutional separation between permitting and compliance assessment: site inspectors also issue permits. However, to avoid potential conflicts of interest, inspector staff are regularly rotated between sites they are responsible for.

Northern Ireland

The Department of the Environment of Northern Ireland (DoE) is responsible for the development of environmental policy and legislation. The Northern Ireland Environment Agency (NIEA) is the regulatory authority which, unlike the Environment Agency and SEPA, is part of the government and not an independent entity. NIEA operates from its single Belfast office and has about 700 staff. It regulates major industries, radioactive substances, discharges to water, emission to air from some industries, and waste management. At the local level, district councils are in charge of regulating air pollution from very small pollution sources and nuisance. The permitting and inspection functions are performed by the same staff.

11.3. Regulatory Regimes

Regulated community

In England and Wales, there are around 4,000 IPPC installations, including about 1 000 farms, 100 000 facilities subject to discharge consents, and 250 000 hazardous waste generators. About two-thirds of the IPPC installations are SMEs (in accordance with the national SME definition), but there is no separate regulatory regime for them. There are about 800 IPPC installations in Scotland and approximately 300 IPPC installations in Northern Ireland.

When a new law is promulgated, the competent authorities work with trade associations both to convey the information about new requirements and identify the scope of the regulated community. Sometimes, there are difficulties, as in the case of farmers where the Environment Agency does not have access to the information on location of individual farms (the farm census data are legally confidential) and farmers are reluctant to come forward voluntarily.

Permits and licences

The permitting framework only covers around 2% of registered businesses in the UK. However, all businesses are covered by general legal requirements, for example, to fulfil their "duty of care" with respect to waste management, to prevent water pollution, and use best practicable means to prevent statutory nuisances (enforcement actions can be taken if problems arise).

Environmental permits replaced "pollution prevention and control" permits and waste management licences in England and Wales in April 2008 , with the entry into force of the EPR. They now cover the scope of the IPPC Directive, air emissions, and hazardous and solid waste management.

The Environment Agency and local authorities consider applications for environmental permits. The Environment Agency issues environmental permits to Part A(1) installations, while Part A(2) installations are regulated by local authorities. The Part B regime (under local authorities' jurisdiction) is similar to Part A from a procedural perspective, but it focuses on controlling air emissions only. For waste management, there are "standard rules" permits for operations that pose a low or medium environmental risk (about 20% of installations) and customised permits for higher-risk operations. For waste management activities with a very low impact (roughly 10% of the total) the permit requirements can be waived (the Agency can still enforce against the respective installations).

Environmental permits are issued for an unlimited period with regular reviews. For Part A installations, economic considerations are taken into account via the appraisal methodology for Best Available Techniques (BAT), which is available to operators in a spreadsheet form. Both the UK Technical Guidance (developed jointly by the Environment Agency, SEPA and NIEA in consultation with industry) and EU BREFs are used by regulators and operators.

In Scotland, permits for all Part A (without subdivision) and Part B installations are issued by SEPA. In Northern Ireland, there is a distinction between larger Part B air emission sources permitted by NIEA and smaller Part C sources regulated by local authorities. Waste management installations are still licensed separately both in Scotland and Northern Ireland.

Discharge consents are issued by the Environment Agency (and SEPA) for direct wastewater discharges into surface waters or groundwater. Surface water discharge consents are based on compliance with water quality standards (which are in turn determined by use classes of receiving water bodies) and are issued for an unlimited duration (groundwater permits are issued for four years). Recently, discharge consents for about 50 000 low-risk installations have been replaced by registration. In Scotland, SEPA applies a "tiered" system to regulating wastewater discharges and is planning to extend it to other regimes in the future. The level of regulation depends on the risk and complexity of an installation and hierarchically increases from general binding rules (which do not require any site-specific authorisation) to registration to simple permits to, finally, complex permits.

Abstraction licences are required for abstractions of more than 20 cubic metres of water per day from a surface water body or an underground source. The Water Act of 2003 led to the removal of licensing requirements for 23 000 small water abstractors whose activities pose low environmental risks, thereby reducing about GBP 1 million per year in administrative costs for businesses.

The environmental permitting regime streamlines different regulatory requirements into a common framework and delivers environmental objectives in a more consistent and cost-effective manner. It simplifies permitting procedures, thereby radically reducing administrative burdens for both industry and the Environment Agency. It is envisaged that in the future, water discharge consents, water abstraction licences, and some other regulatory regimes (*e.g.* radioactive substance regulation) would be incorporated into the simplified system of environmental permitting. This integration would not affect the substantive bases of permitting under the existing regimes (*e.g.* wastewater discharges would still be regulated based on ambient water quality standards).

11.4. Compliance Promotion

Information dissemination to the regulated community

The Environment Agency provides a lot of "retailer" compliance assistance through direct contacts with businesses. Inspectors offer advice to operators as part of their regular activities. In addition, the Agency gives up to 15 hours of free assistance as part of the permit application process. The Agency's area offices periodically organise forums with the regulated community to hear its concerns.

In 2001, the three UK environmental regulators jointly created *NetRegs* – a web-based tool to provide free environmental guidance to small and medium-sized businesses throughout the country. NetRegs includes:

- Guidance by business type for 112 sectors (in agriculture, catering, construction, etc.).

- Guidance by environmental topic (so far, for 38 topics).
- Guidance on existing and forthcoming legislation; and
- Links to trade associations and other sources of environmental guidance and business support.

There are over 300 000 businesses using NetRegs per year (roughly two thirds are SMEs and the other third consultants and trade associations), and this figure is forecast to increase to 600 000 businesses – 25% of all UK businesses – by 2011. It is estimated that NetRegs currently delivers annual administrative cost savings to business of about GBP 10 million.

There is a wide range of guidance provided to industry via the Environment Agency website. The Agency is developing jointly with trade associations *sector plans and guidance* addressing sector-specific issues. Each sector plan proposes environmental priorities, objectives and indicators of performance covering the next five to fifteen years in areas like resource use, waste, pollution, biodiversity, supply chain impacts, stakeholder engagement, and EMS. Apart from the website, the Environment Agency uses brochures, press releases, workshops and seminars.

The Environment Agency also publishes an annual report "Spotlight on Business Environmental Performance" which promotes opportunities offered by good environmental regulation and performance. The reports contain cross-sectoral and sector-specific environmental performance information as well as positive and negative case studies. The "Spotlight" both publicly praises good performers and "names and shames" poor performance.

Envirowise, supported jointly by Defra and the Department of Business, Enterprise and Regulatory Reform, is a service that provides guidance to businesses (mostly medium-sized ones) in the form of site visits to help managers identify opportunities for resource efficiency gains and pollution prevention. An initial visit is free but any follow-up assistance is fee-based.

Promotion of good environmental management

Companies are not routinely required to adopt EMS as a permit condition but the competent authorities are supportive of EMS and encourage companies to use effective management systems (*e.g.* through a 5-10% reduction in administrative fees). The Environment Agency has recently started promoting so-called "EMS for farms", asking farmers to conduct and report the results of self-assessment of their environmental risk in exchange for fewer inspections. There is also a British national environmental management standard, BS8555, which governs EMS for SMEs by allowing them to implement the system in individual modules rather than as a whole. The Agency would like the UK national certification authorities to include an extra module in the standard that would give environmental agencies more confidence that operators actually monitor their environmental performance. However, there is strong opposition from industry to making EMS a permit requirement due to its significant administrative burden.

11.5. Compliance Monitoring[2]

Compliance monitoring instruments

The Environment Agency carries out a range of compliance assessment activities, including sampling, reviewing reports, data and procedures, as well as site inspections and audits (in-depth evaluations). Site inspections tend to be unannounced so that normal

operations can be observed. There may be specific reasons for pre-arranging an inspection: to discuss specific operations, to examine the installation of new equipment, or to check progress in correcting previously identified problems. A site visit is usually conducted by one inspector and can last from a couple of hours to a full day.

An audit serves to identify root causes of non-compliance. Audits usually review the effectiveness of an operator's management system. In addition, an audit could be used to assess whether or not the permit still provides an appropriate level of environmental protection, *i.e.* by benchmarking it against up-to-date best practices. Audits are always planned, and the operator is notified to provide information or attendance of certain personnel. Audits are conducted anywhere between twice a year and once every six years, depending on the installation's environmental performance, and may take up to a week at a time.

There is a general trend toward more management-focused audits rather than inspections in the Agency, which finds that looking at causes rather than symptoms leads to much less recidivism in violations. Since 2005, the number of waste management inspections has been reduced from 80 000 to 60 000, and there has been an additional reduction of 10 000 inspections across other areas. The number of audits, on the contrary, has increased four-fold over the last five years.

Compliance assessment findings are communicated to site operators and are generally available to the public via access to report forms and/or electronic data systems. However, Agency rules on disclosure of information, public registers, commercial confidentiality and national security must be observed.

Targeting of compliance monitoring activities

There is a clear trend toward risk-based targeting of the Agency's compliance assessment activities. For installations covered by the Environmental Permitting Regulations, there are four tools that fit together to plan the compliance assessment process:

- *The Operational Risk Appraisal (Opra)* tool provides a risk-based rating. Opra enables the Environment Agency to adopt a common approach to regulation and target those industries that pose the greatest risk to the environment. Opra is designed to score operators on the basis of *environmental hazard* and *operator performance*. The environmental hazard score takes account of the installation's complexity, location, and emissions. Operator performance is scored on the basis of whether there is an effective EMS in place as well as compliance with permit conditions (on the basis of information from the Compliance Classification Scheme). Opra scores are also taken into account in setting permit charges, providing an indirect financial incentive for compliance.
- *Compliance Assessment Plans (CAPs)* are used to match the compliance assessment effort and available resources for the forthcoming year to the Opra risk profile. CAPs give Agency operational teams flexibility to allocate resources (within the same regulatory regime) toward priorities – based on risk, outcomes and local needs. CAPs are also a means to help balance the effort and costs with the revenue received from the subsistence charges levied on permit holders. While the Opra score determines the initial resource allocation, sector CAPs outline compliance assessment priorities for industry sectors, and site-specific CAPs take into account local issues.
- *The Methodology for Assessing Compliance (MAC)* is a guide for staff undertaking all types of compliance assessment activities. There are several types of compliance assessment

guidance for Environment Agency personnel: generic, by regulatory regime, and by industrial sector. There are also compliance criteria to enable consistent identification and scoring of violations.

- *The Compliance Classification Scheme (CCS)* is used to classify non-compliance with permit conditions according to *potential* impact on the environment and provides information to support consistent and proportionate non-compliance response. It provides consistency across different regulatory regimes in the reporting of non-compliance with permit conditions and the action taken. The CCS information contributes to the activity's Opra score.

Self-monitoring

More reliance on self-monitoring allows the Environment Agency to reduce the number of inspections and increase their efficiency. The level of self-monitoring required reflects the industry sector, size, sensitivity of the receiving media, and site history. In Scotland and Northern Ireland, there is no guidance on self-monitoring requirements, so they are decided on a site-by-site basis by the inspector taking into account similar factors as those set in the Environment Agency guidance.

The credibility of operator self-monitoring is underpinned by the self-monitoring standards set by the Environment Agency under its Monitoring Certification Scheme. Installations subject to the EPR are required to meet MCERTS requirements, where available, but self-monitoring standards also apply to other regulatory regimes where self-monitoring is being carried out (*e.g.* wastewater treatment plants). The Agency also has an Operator Monitoring Assessment (OMA) Scheme to strengthen its auditing of operators' self-monitoring arrangements. Requirements to routinely report data are less extensive than requirements for holding data on site.

A limited amount of check monitoring (regulatory sampling) is conducted by the Environment Agency to verify self-monitoring results. The Agency contracts out all its check monitoring for air to third parties but carries out the regulatory sampling for water at EPR installations. For wastewater discharge consents, the Environment Agency still takes all official samples. While the check monitoring currently covers between 5% and 10% of installations, its level is decreasing.

11.6. Non-compliance Response

Administrative enforcement

The administrative enforcement powers traditionally available to the Environment Agency include enforcement notices and work/improvement notices (where a violation can be prevented or needs to be remedied), prohibition notices (where there is an imminent risk of serious environmental damage), permit suspension or revocation, and variation of permit conditions. Local authorities have a similar array of administrative enforcement tools at their disposal. A court can also issue an injunction to stop an activity but does not usually prescribe corrective actions. Administrative actions are initiated by inspectors and can be used in conjunction with criminal sanctions. According to the Agency, more than 70% of violations are addressed through persuasion, less than 20% by enforcement notice, and less than 7% by prosecution.

In a high-profile 2006 report "Regulatory Justice: Making Sanctions Effective", Professor Richard Macrory proposed that the Government consider introducing a toolkit of

monetary penalties as well as innovative non-compliance response instruments as an alternative to criminal prosecution. The Regulatory Enforcement and Sanctions Act (2008) introduced such administrative sanctions, including:

- Fixed monetary penalties for low-level, minor or high-volume instances of non-compliance;
- Variable monetary penalties (revenues from all monetary penalties would go to the treasury);[3]
- Compliance, restoration, and stop notices; and
- Enforcement undertakings (commitments made by the violator to the regulator to take specific actions related to the offence).

Theses sanctions will be introduced by further secondary legislation. The new instruments would not replace the existing ones but will diversify the Environment Agency's toolbox and add flexibility to its enforcement actions. Having regulators decide on the basis of investigation whether to use criminal prosecution or an administrative penalty would allow for decriminalisation of less serious violations. Distancing administrative penalties from criminal justice is expected to increase the impact of the system of sanctions overall.

There are appeal provisions for most (but not all) administrative sanctions. Most appeals formally go to the Defra Secretary of State, but he/she delegates them to an administrative court run by the Department's Planning Inspectorate. In addition, there can be a judicial review if a party considers that the Agency has not followed correct procedures or if an administrative appeal was rejected.

Currently, the Environment Agency can order an offender to carry out of remedial works. Where the Agency itself has carried out remediation, it can recover the full costs incurred from the responsible party. Strict liability is the norm under British environmental laws. With respect to water pollution, the Agency has a right to invoice the polluter directly and enforce a civil debt in case on non-payment. In other (rare) cases, costs should be recovered via civil court action.

The National Enforcement Database which contains details of formal enforcement actions is not publicly available due to data protection concerns, but information is provided in response to enquiries made under the Environmental Information Regulations.

Criminal enforcement

For more serious offences (defined in the competent authority's enforcement and prosecution policy), prosecution is considered. In England and Wales, the Environment Agency or a local authority can prosecute directly. In Scotland, SEPA cannot initiate prosecutions itself: it must make recommendations to the public prosecutor, the Procurator Fiscal, who makes a decision and conducts prosecution proceedings. In Northern Ireland, prosecution cases are referred by NIEA to the Public Prosecution Service. Prosecutions can also be brought by individual citizens.

The Environment Agency co-operates with the police and tax authorities in investigating environmental crimes where there is some degree of crossover into other criminal activities. In Northern Ireland, NIEA has a special Environmental Crime Team which focuses on illegal waste activities.

Criminal enforcement actions can be taken against a company and/or its officers, the latter only if it can be shown that the violation was committed with their consent or due to their neglect. Criminal cases are heard and penalties (fines per offence and/or imprisonment) are imposed by courts of two levels, depending on the gravity of the offence: a Magistrates' (lower) Court and a Crown (higher) Court in England, a District and a Sheriff's Court in Scotland. There is Sentencing Guidance on environmental offences for judges. The Agency sometimes attempts, where evidence is available, to assess economic gain from non-compliance and present it to the court, but the penalty levels are usually too low to recover economic benefits.

As an alternative to prosecution, the Agency often uses a formal "caution" – a written acceptance by a violator that it has committed an offence. A caution is an independent sanction, but it may only be used where a prosecution could properly have been brought (it is brought to the court's attention if the violator is convicted of a subsequent offence).

11.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

The Environment Agency is about 50% funded from administrative charge revenues, but the charges' share is much higher in the environmental programmes, as most of Defra funding is allocated to flood defence projects. (In Scotland, the budget funding for environmental compliance assurance is significantly higher: the share of charges is about 45% in SEPA's budget which covers only environmental activities.) The Environment Agency must recover all costs (but without additional revenue) associated with its permitting, compliance assessment, and enforcement activities – from staff employment to support services.

The Environment Agency's charging schemes for different regulatory regimes cover a permit application fee, an annual subsistence fee to cover the costs of inspections, compliance monitoring and enforcement, and a variation fee (with an application for permit variation). A Unified Charging Framework is currently being developed as part of the integration of different permitting regimes.

The charge schemes are similar in Scotland and Northern Ireland, but the charge levels are lower there than in England and Wales. Local authorities also charge fees, albeit at much lower rates, for their permitting and compliance and enforcement activities. However, local authorities receive most of their environmental programme funding through Revenue Support Grants from the central government.

The assessment of cost-efficiency of using agency resources is part of the UK regulatory agencies' overall performance measurement. The Environment Agency has set itself a 2% per year efficiency savings target, while SEPA has a 3% target from the Scottish Executive. While the government-wide better regulation initiatives focus on reducing industry's administrative burden rather than on regulators' costs, there is a broad consensus that these reforms will reduce the burden on both sides of the regulatory equation.

Strategic planning

The 2005 report "Reducing Administrative Burdens: Effective Inspection and Enforcement" prepared by Dr. Philip Hampton at the Government's request set out a vision for a risk-based approach to regulation. It argued for the creation of a regulatory system adapted to the realities of the 21st century – with fierce competition, scarce

resources, and well-informed consumers – in which risk assessment would be the basis for all enforcement programmes. The Environment Agency's strategic document "Delivering for the Environment" reflects those principles with respect to environmental regulation.[4]

"Creating a Better Place", the Environment Agency's corporate strategy for 2006-2011, lays out a concept of modern regulation in terms of using risk assessment to achieve the best environmental results and being consistent over time and across all business sectors. It includes five-year targets for environmental improvement, risk assessment, good customer service, and contributing to the Government's target of a 25% reduction in red tape. Targets for compliance assurance programmes are set annually. They are expressed in "service levels" expressing what staff are expected to achieve under each regulatory regime.

In Scotland, SEPA adopts Environmental Quality Improvement Plans which target specific environmental problems and have a bearing on priorities for compliance assurance efforts.

Priorities are also set at the local level. The Rogers Review – the report "National Enforcement Priorities for Local Authority Regulatory Services" by Peter Rogers (March 2007) – identified air quality regulation as one of the six national enforcement priorities.

Performance measurement

In its annual reporting to the Government, the Environment Agency uses the "balanced scorecard" approach – a set of criteria against which the performance is assessed. There is an individual "scorecard" for each department of the Agency and a "corporate" one for the Agency as a whole. The criteria are divided into four categories: outcomes, processes, partners, and resources. The frequency of assessment for individual measures may be monthly, quarterly, semi-annually or annually. Many internal indicators are used to show how the Agency's units are delivering on their commitments. Some of the indicators refer to "standards of service" which set benchmarks for the Agency's interactions with the regulated community and the public (length of the permitting process, response to complaints, etc.).

Despite the abundance of indicators, Defra's 2006 "Review of Enforcement in Environmental Regulation" concluded that the available enforcement and performance monitoring data are not adequate to allow the efficiency or effectiveness of enforcement actions to be comprehensively assessed. For example, data on fines are not very useful in evaluating the adequacy or likely effect of the monetary penalties.

Staff training

There are over 300 training courses offered by the Environment Agency to its staff, their duration ranging from one day to one week. In addition, there are teach-yourself materials on CD-ROMs or directly on the Agency's Intranet site, as well as on-the-job training. The effectiveness of training is evaluated by line management on an individual basis, and is more generally reviewed by the Agency's Training Department based on the management's feedback.

Measuring and adjusting the impact on the regulated community

Following the Dutch approach of setting a target to reduce administrative costs faced by business and matching new regulations by deregulatory measures, the UK Government

developed a number of policy initiatives in its 2005 report "Regulation – Less is More: Reducing Burdens, Improving Outcomes", including, among others:

- Setting a target for reducing the administrative burden;
- Identifying regulations that can be simplified, repealed, reformed and/or consolidated;
- Requiring consideration of compensatory simplification measures as part of the Regulatory Impact Assessment process; and
- Developing a methodology for assessing the total cumulative costs of regulatory proposals.

Following a study of the total administrative burdens of all regulations using the Standard Cost Model, the UK government has committed itself to a 25% reduction in administrative burdens from its regulations from the 2005 baseline by 2010. This has also become a target for Defra and the Environment Agency, but it does not directly apply to SEPA and NIEA because the environment is a devolved authority issue. Environmental officials in England and Wales emphasise that simplification is not about deregulation or erosion of environmental standards but about "regulating better" to achieve the desired outcomes.

Increasing British industry's competitiveness was the primary driver behind the better regulation reforms. Impact assessment guidance issued by the UK Better Regulation Executive requires assessment of the total cost of policy proposals (including enforcement). The UK Government is currently consulting on proposals to introduce a system of regulatory budgets to constrain the total costs of new regulation.

Notes

1. Unless specified otherwise, this profile primarily covers the compliance assurance system in England and Wales.
2. In the UK, compliance monitoring is referred to as "compliance assessment".
3. A methodology for determining the size of variable administrative monetary penalties, which are expected to remove financial gain from non-compliance, will be developed by the regulatory agencies.
4. Better environmental regulation initiatives are most advanced in England and Wales. While SEPA is moving in the same direction and already has a Better Regulation Office, NIEA is behind its sister agencies in this respect.

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PART II

Chapter 12

United States

12.1. Key Features of the Legislative Framework Related to Compliance Assurance

The following are the major substantive US federal environmental laws:

- Clean Air Act (CAA, 1970) – regulates air emissions from area, stationary and mobile sources.
- Clean Water Act (CWA, 1972) – regulates discharges of pollutants into the waters of the US.
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 1980) – provides for a federal "Superfund" to clean up abandoned hazardous waste sites and other pollutant releases.
- Emergency Planning and Community Right-to-Know Act (EPCRA, 1986) – assists local communities in protecting public health, safety, and the environment from chemical hazards.
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA, 1972) – provides federal control of pesticide distribution, sale, and use.
- National Environmental Policy Act (NEPA, 1969) – assures environmental impact assessment prior to any major federal action.
- Oil Pollution Act (OPA, 1990) – addresses prevention of, and response to, catastrophic oil spills.
- Resource Conservation and Recovery Act (RCRA, 1976) – regulates generation, transportation, treatment, storage, and disposal of hazardous waste and establishes a framework for the management of non-hazardous waste.
- Safe Drinking Water Act (SDWA, 1974) – protects the quality of drinking water.
- Toxic Substances Control Act (TSCA, 1976) – tracks industrial chemicals produced in or imported into the United States.

All these laws are supported by implementing regulations developed and promulgated by the US Environmental Protection Agency (EPA) under the statutes' authority. Maximum penalties for violations are specified in relevant laws.

Both the federal and state governments have the authority to regulate activities to protect human health and the environment. In implementing the federal environmental statutes, the EPA typically sets the minimum standards that must be met by all the states. States that have been authorised by the EPA to implement specific federal environmental programmes typically model their laws on federal statutes or may adopt them by reference. States may adhere closely to the federal regulatory standards or set their own, more restrictive standards, or seek more stringent interpretations of existing federal law. States may also enact laws that supplement, but do not conflict with, federal environmental standards or that cover areas not regulated at the federal level. As a result of this structure, state laws and regulations authorised pursuant to federal environmental laws are important factors in the scope and direction of compliance programmes. A basic level of

national consistency is achieved through federal laws that limit or pre-empt state requirements that conflict with national ones, and by EPA oversight of state implementation of federal environmental laws.

12.2. Institutional Framework for Compliance Assurance

Federal level

The EPA is responsible for the federal compliance and enforcement programme. The programme's various components are divided between EPA headquarters and ten EPA regional offices. The EPA headquarters is primarily responsible for setting national compliance policy, investigating and pursuing all criminal cases, developing and implementing national priorities, bringing civil cases that raise nationally significant issues, overseeing regional enforcement programs, monitoring state activities, and providing legal and technical support and guidance. EPA regions generally take the primary responsibility for performing inspections, providing compliance assistance, issuing administrative orders, preparing civil actions, monitoring compliance with administrative and judicial orders, and co-operation with state agencies.

Both EPA headquarters and regions maintain a broad, basic ("core") enforcement programme under each of the federal environmental laws. Moreover, the Agency is increasingly focused on identifying and addressing specific health or environmental risks through national enforcement and compliance priorities or other enforcement initiatives. The compliance assurance functions of the EPA are separate from the Agency's regulatory and permitting functions, which are carried out by statute-oriented programmes and respective offices.

The Office of Enforcement and Compliance Assurance (OECA) works in partnership with EPA regional and other programme offices, other federal agencies, and state and tribal governments. OECA has approximately 3 400 employees (out of about 17 000 across the EPA) who provide compliance assistance, conduct inspections and investigations, develop and execute enforcement cases, and manage national compliance data systems. Among OECA's sub-divisions are the Office of Compliance (responsible, among others, for strategic planning and targeting, compliance assistance, compliance monitoring, and relations with regions, states, municipalities, citizen groups and industry), Office of Civil Enforcement, and Office of Criminal Enforcement, Forensics and Training.

EPA's mandate covers mostly pollution control issues. Natural resource management and workplace health and safety issues are regulated by other federal agencies, *e.g.* the US Fish and Wildlife Service under the Department of the Interior and the Occupational Safety and Health Administration under the Department of Labor.

The Department of Justice (DOJ) plays an important role in environmental enforcement at the federal level, in collaboration with the EPA from which it receives referrals of investigated cases. The DOJ has two units devoted to bringing environmental enforcement actions in the federal courts: the Environmental Enforcement Section for civil actions and the Environmental Crimes Section for criminal actions. Other federal personnel, including the FBI and the Coast Guard, may assist in the investigation of federal environmental violations.

Federal-state relationship

Many federal environmental statutes, such as the CAA or CWA, establish federal-state regulatory programmes. States apply for, and usually receive, EPA authorisation to implement federal laws through state laws that maintain minimum federal criteria. Although states conduct about 90% of all enforcement actions, the EPA handles most of the larger or more complex cases. States and the EPA often combine enforcement efforts for very large or important cases. In implementing the federal environmental statutes, states can only take civil judicial enforcement actions; the EPA, however, can take civil judicial, administrative and criminal actions (see Section 12.6). In implementing their own, independent state environmental laws, states may also take administrative, civil, and criminal actions.

States' environmental programmes have a variety of different organisational setups. Many state environment agencies have regional offices as well. State attorneys general and district attorneys bring enforcement actions in state courts.

The EPA provides funds to states to assist them in the implementation of federal programmes in the form of State and Tribal Assistance Grants. States also provide funds for these programmes, typically many times over the federal amount. The federal funds are important to states because they are targeted to specific programmes and help states meet federal requirements in permitting, enforcement, monitoring, compliance assistance, etc. The EPA and many states chose to combine some or all grants in one overall "Performance-Partnership Agreement" that stipulates all national expectations and flexibility in the implementation of state programmes, including enforcement.

If a state fails to take an enforcement action under an authorised programme, does not obtain acceptable results, requests assistance, or if the EPA sees a need for national consistency or to address a national priority, the EPA may get involved and take direct action to enforce national law. Should a state fail to perform, the EPA may withhold its grant funds as a sanction or even withdraw authorisation of a state programme. However, the emphasis is commonly on constructive assistance to improve state programmes.

Enforcement disagreements between the federal and state levels are not unusual. The national government may see a state as protecting favoured local polluting industries and damaging the goal of national consistency. On the other hand, a state may see the national EPA as heavy-handed, too enforcement-minded, and not respectful of the local goal of tailored and flexible response. While there is no formal administrative dispute resolution mechanism, in such instances there are consultations between the EPA and states to work out their differences.

12.3. Regulatory Regimes

Regulated community

The tools to identify the regulated community include EPA and other agency databases, GIS maps, permit and registration information, information requests, and inspections. The regulated community is defined separately for each statute. The EPA maintains 1.6 million facility records in its compliance and enforcement databases, mostly of entities for which the EPA has direct regulatory authority. These comprise, according to the 2007 estimates, around 139 000 "sources" (including 16 000 major sources) under the CAA, 50 000 permitted facilities under the CWA, as well as 2 000 treatment, storage, and disposal facilities and 195 000 hazardous waste generators under RCRA.

Principal environmental permits

Most environmental permits are issued by EPA-authorised states (under some laws the EPA has the right to comment on draft state permits). Permitting programmes that cannot be or have not been authorised to states are run directly by the EPA, as are product registration requirements under some statutes, such as for pesticides under FIFRA. If the EPA issues permits directly, it is done by Regional Offices, often in close consultation with the affected state agency. There is no unified national database of environmental permits that collects all permit data.

Air, water, and hazardous waste permits are issued under the CAA, CWA, and RCRA, respectively:

- *Air Permits*. Title V of the 1990 Clean Air Act Amendments require each state to develop and implement a comprehensive operating permit programme for major stationary sources of air pollution. Permit programmes are administered by states, but the EPA retains authority to review and approve not only the overall permit programme, but also each individual permit issued by the state. State Implementation Plans (SIPs) establish source-specific requirements that address compliance with applicable air quality standards. Permits generally cover each individual emission unit (except under a "bubble" or "cap" arrangement where only the total emissions from a facility may be regulated) for a fixed term of no more than five years. There are a number of programmes defining technology-based requirements that form the basis of air permits.
- For minor stationary sources with similar technological processes that do not warrant individual permits, *general permits* can be issued, encompassing emission standards and best management practices. Individual facilities have to simply report to the agency that they are subject to the respective general permit. (Similar general permits exist under the water programme, and the state of Mississippi even issues multimedia general permits).
- *Water Permits*. The National Pollutant Discharge Elimination System (NPDES) permit programme implements the Clean Water Act's prohibition of unauthorised discharges from point sources to surface waters. Permits are issued by the EPA or authorised states, normally for a period of five years. Most permits issued by authorised states are subject to review by the EPA. If the EPA objects to a state permit and the state does not change the permit to address the EPA's concerns, the EPA may issue its own permit for the facility. The primary purpose of an NPDES permit is to establish effluent limits, but it may also contain requirements to perform best management practices. All dischargers are required to meet wastewater treatment levels based on the more stringent of two considerations. The first is EPA's assessment of the capabilities of treatment methods that are technologically and economically achievable in the discharger's particular industry. The second is the assessment by the permitting authority of the level of treatment necessary to achieve state water quality standards.
- *Hazardous Waste Permits*. RCRA requires every owner and operator of a hazardous waste treatment, storage, or disposal (TSD) facility to obtain a permit from the authorised state or the EPA. Permits contain site-specific design, construction, and operating standards which are promulgated by the EPA for each different type of TSD facility: containers, tanks, surface impoundments, landfills, incinerators, etc. RCRA permits can be issued only for a fixed term not to exceed 10 years. In addition to TSD permits, RCRA regulates hazardous waste generators and transporters to ensure that waste does not accumulate, moves safely, and goes only to permitted TSD facilities.

Each of the three statutes allows a large degree of public participation in the permitting process. For example, under the CWA, the permitting authority must publish a notice of the issuance of the draft permit in a local newspaper and must accept comments from the public during a comment period of at least 30 days. If there is a significant degree of public interest in the draft permit, the EPA or the state agency will hold a public hearing.

Innovative approaches in permitting

The *Environmental Results Program* (ERP) developed by some states, has EPA support through tool development and evaluation. ERP improves environmental performance of various business sectors or other groups with large numbers of small facilities. Since its initial piloting by Massachusetts in 1997, ERP is now being implemented by 16 states in ten economic sectors. ERP integrates compliance assistance that promotes pollution prevention (operational guidance covering key multimedia requirements and best practices), facility self-audit and self-certification, and the regulating agency's random and targeted inspections to measure facility and sector performance. ERP shows high potential for cost-effectively achieving results with these small entities that historically are under- or unregulated, numerous, dispersed, and difficult to monitor for compliance.

Substantive changes to permitting rules and policy have been tested and, in some cases, implemented. The EPA and states conducted a series of "flexible air permitting" pilots to allow for process changes in fast-developing industries (computers, pharmaceuticals) without weakening environmental standards. These permits established caps for an entire facility and allowed some permit conditions to be written on a contingency basis to allow operational changes to be made without a permit revision process.

Multimedia permitting is difficult under the federal statutory structure. Some states like New Jersey experimented with multimedia permits in the 1990s. Although the permits were largely a compilation of medium-specific permits, the permit process also required pollution prevention planning and materials accounting to set medium-specific process-level caps rather than just focus on permit-specific sources. In other states such as Massachusetts, the issuance of medium-specific permits is co-ordinated to avoid cross-media transfer of pollution, and in yet other states, permit writers are organised by industrial sector to work on all medium-specific permits for an individual facility. The EPA recently issued a report encouraging states to experiment with linkages between permits and comprehensive multimedia environmental management systems.

12.4. Compliance Promotion

Information dissemination to the regulated community

Increased compliance assistance, particularly to small businesses, has been one of the main trends in the US compliance assurance programme over about the last 15 years. The EPA uses partnerships with compliance assistance providers to prepare and deliver compliance assistance resources such as websites, compliance guides, fact sheets, and training materials. Compliance assistance providers include federal and state regulators, local and tribal governments, trade associations, universities, non-profit organisations, and consulting firms.

Most of the compliance assistance is organised by industry sector and by statute. EPA programme offices develop assistance materials, conduct workshops and facility visits, organise hotlines in relation to medium-specific requirements, doing so particularly for

new rules (for which the EPA often partners with industry associations). OECA's compliance assistance is focused on rules where compliance has been found to be problematic. The choice between the instruments of direct compliance assistance is based on enforcement priorities, effectiveness, and costs. In general, most direct compliance assistance targets small facilities, and Compliance Assistance Guides are developed for larger, more complex sectors. The latter efforts often contribute to the "greening of the supply chain" when large companies start to demand good environmental practices from their suppliers.

Most states actively provide compliance assistance to the regulated community, while some do very little in this respect. Eight states have a separate, high-level compliance assistance office: Hawaii, New Jersey, Connecticut, California, Pennsylvania, Texas, Utah, and Michigan. States usually receive federal grants for compliance activities but use them in accordance with their own priorities. The EPA sometimes also gives grants for compliance assistance to tribes, counties, and municipalities, without which they cannot engage in such activities on their own.

Inspectors are the primary source of compliance assistance in the field. They are encouraged to provide general and site-specific compliance assistance during compliance evaluations and inspections, including distributing copies of guidance manuals, literature on pollution prevention and environmental management practices, and general explanations of where to obtain regulatory and compliance assistance information. Inspectors routinely provide information on obvious compliance problems (*e.g.* improper labelling, aisle space), enabling the facility to undertake quick action to remedy problems that are simple. However, for violations requiring more technical and complex solutions to be negotiated in an official enforcement action, EPA inspectors are not allowed to provide site-specific technical or legal information during inspections.

Besides providing direct compliance assistance, the EPA uses a number of web-based tools to disseminate information on good compliance practices. Sixteen sector-specific web-based *Compliance Assistance Centers* consolidate and explain relevant environmental requirements and solutions. In FY 2007 alone, the Centers were visited almost two million times. In addition, the OECA website contains industry-specific guides and the *Industry Sector Notebooks* series. For 33 sectors (including local governments), the Notebooks contain information on typical process operations, pollutants, applicable federal regulations, pollution prevention opportunities, most common environmental violations within the sector, voluntary initiatives, and associated organisations.

Promotion of good environmental management

In an important ongoing trend, the EPA promotes environmental management systems in industry, state and local governments, and federal facilities of all types and sizes, whether in compliance with, or in violation of, environmental requirements. In recent years, the focus of improving compliance has been moving, at least in some EPA regions, from the traditional statute approach to encouraging innovation and sustainability through establishing EMSs, pollution prevention, energy conservation, greenhouse gas emission reduction, and generally going beyond compliance. Promoting the holistic approach to corporate environmental management is expected to ultimately reduce the EPA involvement in the concerned industries and allow more efficient use of the regulator's resources.

Where the EPA determines that a root cause of a violation is the absence of a systematic approach to identifying, understanding, and managing the regulated entity's compliance, the ordered corrective actions may include an EMS with a compliance focus. An EMS may also be part of a *Supplemental Environmental Project* for a small business or a state or local government. In addition, the EPA *Audit Policy* (titled "Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations") encourages a violator to discover (before EPA does), promptly disclose, correct, and prevent a recurrence of a violation through the implementation of an EMS. This satisfies the Audit Policy's "due diligence" criteria, and the financial incentive is that the EPA will eliminate the gravity-based component of a civil penalty.

Role of public pressure

In the US, the fear of adverse publicity often acts as a strong deterrent to non-compliance with environmental requirements. Public disclosure of non-compliance is used deliberately as a tool by lawmakers, courts, agencies, and NGOs to obtain compliance. The EPA's national and regional offices routinely issue press releases and news stories about enforcement actions and penalties assessed against violators. The EPA uses the mass media and finds opportunity for outreach in the business trade press, environmental journals, and other sectoral publications. The same is true of state environmental agencies. On the other hand, when monitoring and data show improvements or significant reductions in pollution levels, US industry routinely contacts the media to get that message out.

The EPA provides easy public access to much enforcement and compliance information, including enforcement cases filed and concluded against named violators, which also has a significant compliance promotion effect. The Enforcement and Compliance History Online (ECHO) database contains public information on permits and enforcement actions taken (penalties paid, actions taken to improve compliance, environmental benefits). The Toxics Release Inventory provides information to the public (via another website) on lawful releases of toxic chemicals from manufacturing facilities. In addition, responding to thousands of requests from the public, the EPA releases information about individual companies as provided under the federal Freedom of Information Act. Most states do the same under a comparable state statute.

12.5. Compliance Monitoring

Compliance monitoring instruments

Compliance monitoring is founded in the information that environmental laws allow the EPA to request and obtain. The EPA (regions) conducts about 20 000 inspections per year, while states conduct 5-10 times this number. States may conduct inspections under their own authority, under the terms of EPA authorisation of a state programme, or under EPA authority on behalf of the EPA. Civil inspectors perform inspections and evaluations. In addition, the EPA and many states have environmental crime investigators who are law enforcement officers fully authorised to apply police powers while doing investigations.

Inspections and evaluations are usually conducted under single-medium programmes but can also be multimedia. For example, Massachusetts has been conducting multimedia inspections (covering air, water, wastewater, hazardous and solid waste) for the last 15 years. The EPA conducts very few multimedia inspections (only for very large facilities,

federal facilities, or following significant complaints) and considers inspections under multiple statutes to be complex and not always in-depth.

Different statutes entail different degrees of on-site presence. Some statutes, such as RCRA, involve mainly conducting inspections, sampling and review since very little self-monitoring data are provided by companies. Under other statutes, such as the CAA and the CWA, compliance monitoring relies more on self-monitoring. When necessary, inspectors take samples to verify the quality of self-reported data.

The EPA's regional offices develop annual inspection plans (usually by statutory programme) in discussion with states. Inspection frequencies are established in the statutes or special agency policies and are summarised in the National Program Managers Guidance. Most inspections (and all criminal investigations) are unannounced unless the presence of a particular facility person on-site is needed, but this largely depends on the subject of inspection. Unscheduled inspections are conducted as a follow-up on tips and complaints or in response to a natural catastrophe.

An *investigation* is a detailed assessment of a regulated entity's compliance status conducted when an inspection or record review suggests the potential for serious, widespread, or continuing civil or criminal violations. It may also be triggered by a citizen complaint, referral from another agency, or from a study conducted by the EPA inferring a potential compliance problem. Civil and criminal investigations require significantly more time (at least several weeks) to complete than a typical compliance inspection.

The compliance and enforcement data are made available in the Online Tracking Information System (OTIS), a set of internal web-based search and reporting tools which contains compliance status and inspection and enforcement history for more than 800 000 facilities covering air, water, and hazardous waste programmes, including basic permit data, and state and EPA data on inspections and violations by type and pollutant. OTIS is available only to the EPA, federal government and state government users.

Targeting of compliance monitoring activities

The targeting factors used for compliance monitoring activities include:

- Tips and complaints from the public, including employees and competing industries;
- Information from news sources;
- History of non-compliance by a facility, corporation, or information on widespread non-compliance in an industry sector or with respect to specific regulations;
- New requirements, especially with respect to new elements of the regulated community;
- Environmental concerns or incidents;
- Environmental justice concerns (violation of fair, equal treatment of all people with respect to the implementation and enforcement of environmental requirements); and
- Public health concerns.

National environmental enforcement priorities and targeting strategies are a major factor in focusing the EPA's compliance monitoring efforts. These are conveyed via the National Program Managers Guidance, statute-specific strategies, inspection manuals, or grant guidance for states. The EPA tends to delegate to states compliance monitoring under the "core programmes" while it focuses on national priority areas. There is increased co-operation with states in terms of inspection coverage, but some state compliance monitoring programmes are not fully funded, in which cases the EPA conducts additional inspections.

Self-monitoring

A number of environmental statutes require facilities to self-monitor and report. Compliance may be determined via an off-site record review to evaluate a facility's mandatory reporting. The agency takes action (stiff monetary penalties) against those who fail to file appropriate monitoring information and takes a number of steps (including surprise audits) to verify that what is being filed is accurate information. The penalties for filing false or inaccurate data are very severe and can even result in criminal prosecution.

12.6. Non-compliance Response

Although the EPA retains enforcement authority under all federal environmental laws, the authorisation of states to implement enforcement programmes has allowed the EPA to focus more of its enforcement efforts on national priorities and cases where there is a significant pattern of non-compliance, a significant environmental benefit may be gained from enforcement, or the federal government is best suited to address the issue. An EPA-discovered violation may be referred to the state if it does not meet any of the above criteria. At the same time, a state may refer a case to the regional EPA office if it feels the EPA is better positioned to handle a particular violator. Very often a state will use the threat of EPA involvement to encourage the violator to settle at the state level.

The EPA has Enforcement Response Policies that describe how the Agency will treat violations and the actions that should be taken (states also have their own enforcement guidelines). These are developed based on each statute or for particular programmes within a statute. The Enforcement Response Policies differentiate between "significant" non-compliers and "secondary" violators. Significant non-compliers are generally those violators that have caused actual exposure or substantial likelihood of exposure to hazardous pollutants; are chronic or recalcitrant violators; or deviate substantially from the terms of a permit, order, agreement, or statutory or regulatory requirements.

Administrative and civil judicial enforcement

EPA civil enforcement is done by either the administrative or the judicial procedure. The procedures are similar in principle, and administrative litigation is typically shorter because the procedure is simpler. The EPA chooses between administrative and civil judicial enforcement based on a number of criteria. Judicial enforcement is usually pursued against recalcitrant violators, in complex cases, when the size of the penalty is expected to exceed the statutory limit for administrative cases, when injunctive relief is required, if the EPA wants to create a legal precedent, or simply if an administrative enforcement case drags on for too long without result.

In an administrative procedure, the first step is an attempt to reach a pre-settlement, which would result in a Consent Agreement and Final Order – a legal document that typically includes a statement of the violation, assessment of a civil penalty, and a compliance schedule. Such orders are treated like a contract between the regulated facility and the agency and are frequently used when the facility needs to have an agreed plan to return to compliance.

Most federal actions against businesses or individuals for failure to comply with the environmental laws are resolved through settlement agreements (*e.g.* about 75% of administrative cases and 90% of judicial cases are settled). As part of a settlement, an alleged violator may voluntarily agree to undertake an environmentally beneficial project

(*Supplemental Environmental Project*, or SEP) related to the violation in exchange for mitigation of the penalty to be paid. Undertaking a SEP may help industry repair its public image tarnished by the violation.

If there is no settlement in an administrative process, the next action may be a unilateral Administrative Compliance Order. Such orders instruct the regulated entity to take certain steps by some deadline or face further escalation of action. The EPA or states may under various statutes also issue emergency orders where there is or may be an imminent or substantial danger to public health and/or the environment. In a judicial procedure, the agency may seek a temporary restraining order or injunction issued by a court.

To impose an administrative penalty, a regional office (or sometimes the headquarters) files a "complaint" before the EPA Office of Administrative Law Judges (ALJ), an independent unit in the Office of the EPA Administrator. The ALJs conduct hearings and render decisions in administrative proceedings between the EPA and regulated entities. An ALJ decides whether the proposed penalties are justified by evidence of the violation and consistent with the law. Decisions issued by the ALJs are subject to review by the EPA's Environmental Appeals Board (EAB) appointed from among civil servants. If the company disagrees with the EAB decision, it can appeal to a federal court. Many states have similar schemes for administrative adjudication – using either an ALJ or a "hearing officer", but their powers may be different.

Civil judicial cases are brought in a federal court by the US Department of Justice on behalf of the EPA, and by the State Attorneys General to state courts. Civil judicial actions usually result in injunctive relief (measures required to be undertaken by the violator to come into compliance) and penalties. Under either a settlement agreement or court order, there may be conditional penalties that are imposed if the facility fails to comply. If it is proven that a violator did not comply with a court order, the violator can be brought again before the court for punishment for contempt. The EPA and states often co-operate in bringing civil judicial enforcement actions.

In the US, administrative and civil judicial penalties can be assessed against individuals, businesses and enterprises, as well as state and local governments. However, they are rarely assessed against individuals, unless the enforcer finds compelling circumstances. A formal civil enforcement response usually includes a penalty assessment to recover the economic benefit of non-compliance, plus some additional amount reflecting the gravity of the violation.

The major federal environmental statutes – including RCRA, CWA, and CAA – provide for administrative and civil judicial penalties of up to USD 32 500 per day of violation (the penalty limits are regularly adjusted for inflation). However, because there are also limits in the CAA and CWA on a total value of penalty per administrative enforcement case, cases under these statutes that involve potentially large penalties have to be pursued through civil judicial actions. The size of administrative and civil judicial penalties is usually lower under state statutes than under federal ones.

It is EPA policy not to settle for civil penalties less than the value of economic benefit of non-compliance. However, in extremely rare instances where the violator has limited ability to pay a penalty, its payment of economic benefit would result in plant closing or bankruptcy, or there is a substantial risk that the EPA may not be able to obtain a penalty through litigation, the EPA may settle for a smaller penalty.

The EPA issues policies by which some offenders, by taking responsible action, may receive a reduction or a waiver of penalties for their violations. The *Audit Policy* provides for reductions or waivers up to 100% of the gravity-based component of civil penalties to facilities that conduct self-assessment audits, then promptly disclose and correct any violations discovered. The *Small Business Compliance Policy* promotes environmental compliance among small businesses by waiving or reducing the gravity component of civil penalties whenever a small business makes a good faith effort to comply with environmental requirements by voluntarily discovering a violation, promptly disclosing it, and correcting it within the proper timeframe. The *Small Local Governments Compliance Assistance Policy* encourages local governments with fewer than 100,000 permanent residents to correct (or commit to correct on a defined schedule) any violations discovered during a comprehensive review of the local government's compliance status. Similar penalty reductions are available for small local governments that develop and implement an environmental management system for their operations. States may have similar policies.

The EPA's *cleanup enforcement* programme protects human health and the environment by getting those responsible for a hazardous waste site to either clean up or reimburse the EPA's "Superfund" for its cleanup. The EPA uses its authority under CERCLA and the Oil Pollution Act to pursue the recovery of cleanup costs and to seek judicial orders requiring potentially responsible parties to perform cleanups. In addition, the federal government can recover the cost of restoring damaged natural resources to their baseline condition, compensation for the interim loss of damaged resources pending recovery, and the reasonable cost of damage assessment. Damage compensation suits are usually handled by federal courts. Funds recovered from a damage claim must be used only for restoration or replacement of the damaged natural resource, or to compensate the public for the interim loss of that resource.

Alternative dispute resolution

The US EPA has used ADR in a wide range of enforcement and compliance activities since 1985 in cases where there is an impasse or potential for impasse in the negotiations, especially if ADR is likely to achieve resource efficiencies for the Agency. Most commonly used ADR methods include mediation and facilitation. In EPA administrative enforcement cases, mediation is typically conducted by an ALJ. ADR is selected by the parties in a third of administrative enforcement cases and the use of ADR leads to early settlement in over two thirds of such cases. The EPA feels that using ADR may lower enforcement costs, create more satisfying and enduring solutions, and identify and resolve issues faster.

Criminal enforcement

The US Department of Justice has the responsibility for prosecuting criminal violations of federal environmental laws. Those federal crimes are generally investigated by the Criminal Investigation Division of the EPA. Most of the states have criminal penalty provisions in their state environmental laws, and most State Attorneys General have state-wide jurisdiction to prosecute criminal violations of those laws.

Criminal enforcement is usually reserved for only the most serious violations, where there is intentional, wilful or knowing disregard of the law. While the burden of proof in civil cases is preponderance of evidence, it is "beyond a reasonable doubt" in criminal cases. States cannot take criminal actions under federal statutes, but for a programme to be delegated to a state, it must have criminal provisions under the respective state law.

Still, the EPA often takes criminal actions itself because some states do not have capacity for that.

Cases for criminal enforcement are guided by two general criteria: significant (actual or potential) environmental harm, and culpability of the misconduct. Culpability may be indicated by several factors, including:

- History of repeated violations;
- Deliberate misconduct resulting in a violation;
- Concealment of misconduct or falsification of required records;
- Tampering with monitoring or control equipment; and
- Operation of pollution-causing activities without a permit or other required documentation.

Frequently, investigations of environmental crimes uncover other crimes, such as lying to the government, fraud or conspiracy.

In most major federal environmental statutes, there is a spectrum of criminal violations and respective criminal penalties. The size of penalties (fines and imprisonment) increases from "negligent" violations to "knowing" violations to "knowing endangerment" of public health or the environment. Whenever possible, enforcers will supplement charges under environmental statutes with charges based upon more generic criminal laws.

Citizen enforcement

Most of the major environmental statutes include provisions which allow private citizens to bring suits to enforce federal environmental laws. The role of these citizen suit provisions is to supplement government action. The EPA or a state agency may be party to the litigation or just provide information to the court.

Most citizen suits settle under a consent agreement providing for some combination of a civil penalty paid to the government, payment of attorney's fees and costs to the plaintiff, a compliance schedule to bring the violator into compliance, along with "stipulated" penalties which the violator agrees to pay in the event of failure to meet such schedule, and/or payment of money to support an environmental activity selected by the plaintiff. The EPA has the right to review and object to any consent agreement entered in a citizen suit. Under these provisions, the plaintiff may not recover personal remedies.

In addition to and distinct from citizen suits to enforce federal law, private citizens specifically injured by environmental wrongdoing can bring private-party suits. These include toxic tort suits, nuisance actions, and similar actions usually designed to recover monetary compensation for specific harm done to the plaintiff.

12.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

EPA activities are funded through a standard congressional appropriations process, 100% from the federal budget. Out of the total EPA annual budget of around USD 7 billion, compliance assurance accounts for USD 521 million. The budget architecture is focused on tools (assistance, compliance monitoring, etc.) which form the building blocks in the budget drafting process.

Administrative fees exist only for permitting at the state level, with revenues going to state treasuries. Permit fees are typically designed to cover all or part of the cost of the state environmental agency to review the permit application and issue the permit, and may include the costs of state compliance assurance actions as well. For most states, this source of funding is the largest component of the budget. Most states charge permit fees under their air, water and waste programmes, and these fees are different not only among states, but among programmes. The fees usually vary according to the size or environmental impact of the facility. There is also usually a differentiation between municipal and industrial facilities. Some states choose not to impose a permit fee for some programmes.

Environment agency resources in general and for compliance assurance in particular have been declining over the last 7 years. This is true both at the federal and the state levels. States suffer from reduced federal grants (which may account for 20% to 60% of the state agency budgets), their own budget deficits, and reduced permit fees due to a reduced industrial base.

Strategic planning

The Agency's compliance assurance activities are divided into the core programme and national priorities established by OECA. The EPA's 2006-2011 Strategic Plan, Objective 5.1 "Achieve environmental protection through improved compliance", sets specific targets for compliance assistance, implementation of compliance incentives (such as the Audit Policy and the Small Business Compliance Policy), as well as compliance monitoring and enforcement.

Priority setting and targeting, both done with greater use of data, is becoming increasingly crucial to the compliance and enforcement programmes of the EPA and the states, as their regulatory programmes have grown in scope and complexity at a time when budget constraints on federal and state governments are resulting in stagnant or declining resource levels. More and more, EPA Regions and states develop integrated strategies to achieve specific environmental results. The strategies lead to a focus on bigger problems and bigger enforcement cases.

Performance assessment

The EPA has several performance review mechanisms for its compliance assurance programmes. The Office of Inspector General (OIG) conducts internal audits of particular elements of every programme, including compliance assurance. Since 1995, OECA has published the Annual Report on Enforcement and Compliance Assurance Accomplishments which tracks performance on the basis of a set of indicators. OECA has also implemented a process for analysing the performance of the various elements of the national enforcement and compliance assurance programme. OECA also awards (mainly via the Regions) a number of assistance agreements to states, tribes and non-profit organisations to conduct a variety of activities in the area of performance management.

OECA works closely with the Regions, the Environmental Council of States, state environmental media associations, and other state representatives to jointly develop a process for conducting reviews of state enforcement programmes, called the State Review Framework. The Framework, created in 2004, is a management tool meant to establish a dialogue on enforcement and compliance performance that will lead to improved programme management and environmental results. The scope of the review includes 12 essential elements covering compliance monitoring, civil enforcement and data

management, and as optional elements, compliance assistance, self-disclosure initiatives, and innovative programmes. The State Review Framework contributes to improving consistency of enforcement activities across states.

OECA has a number of indicators that focus on the outcomes of federal programme activities, *i.e.* improvements in environmental conditions or behaviour of the regulated community. They include, among others:

- Mass (pounds) of pollutants reduced or treated as a result of enforcement actions and as a result of compliance incentive programmes;
- Volume of contaminated soil and wastewater cleaned;
- Area of wetlands protected;
- Dollar value of pollution control projects required by enforcement actions;
- Percentage of regulated entities taking complying actions as a result of on-site compliance inspections and evaluations;
- Number of entities seeking compliance assistance; and
- Percentage of regulated entities receiving EPA compliance assistance that, as a result of such assistance, reduced or treated pollution or improved environmental management practices.

In addition, there are several key output indicators which are used in combination with the outcome measures:

- Number of inspections and investigations conducted;
- Number of civil and criminal enforcement actions;
- Number of facilities participating in the voluntary disclosure programme;
- Number of facilities reached through compliance assistance efforts; and
- Number of training course and other capacity building efforts provided to state, tribal, or local programmes.

Still, measuring compliance assurance results remains one of the most important challenges for the EPA, in every substantive area and both in the headquarters and the Regions. Objectively, it can be very difficult and expensive to measure environmental results such as pollution reductions, quantify future ones, and causally relate them to a particular compliance assurance activity.

Staff training

The EPA operates a National Enforcement Training Institute (NETI) to provide training that covers the full spectrum of compliance assurance tools, including compliance monitoring, compliance assistance, compliance incentives, and civil and criminal enforcement. Since 1990, NETI has been providing free of charge training for federal, state, local, and tribal environmental enforcement personnel, including attorneys, inspectors, technical staff, and investigators. Both classroom-based and online training are available, as well as an online resource centre.

Measuring and adjusting the impact on the regulated community

Federal agencies are required to conduct detailed impact analyses of proposed regulations on the regulated community. In addition, the Manufacturing and Services Unit of the International Trade Administration, US Department of Commerce, as part of the

regulatory development process works with the EPA to analyse impacts on competitiveness of US industries. Trade associations also analyse the impact of regulations on competitiveness within their sectors.

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PART II

Chapter 13

China

13.1. Key Features of the Legislative Framework Related to Compliance Assurance

At present, China's framework includes twenty-two statutes, more than forty regulations, approximately five hundred standards, and more than six hundred other legal norm-creating documents primarily addressing pollution control, natural resource conservation, and management of the environmental stewardship aspects of consumer products ("product stewardship").

The Environmental Protection Law (EPL) which came into effect in 1989 after a ten-year trial period is the main legal basis for environmental management in China. Among others, the law divides environmental management functions between national and local environmental administrations with powers to enforce environmental requirements. The EPL prescribes circumstances under which sanctions should be applied against non-compliance but does not specify their monetary value.

The Air Pollution Prevention and Control Law (1987, last amended in 2000) and the Water Pollution Prevention and Control Law (1984, last amended in 2008) specify ranges of fines for major categories of violations. The criminal penalties are stipulated in the Criminal Law (amended in 1997).

In spite of the comprehensiveness of the legal framework, some issues, such as soil pollution prevention, sustainable management of chemical substances, comprehensive waste reduction and management, environmental permitting, damage compensation and addressing the liability for the past pollution, are not yet regulated. Many environmental laws lack adequate implementing regulations.

The EPL is currently under revision to adjust the environmental regulatory framework in light of the fast economic development and new sectoral laws being drafted, such as the new Law on Circular Economy. The amendments are likely to stipulate greater cross-media integration of regulation (particularly through permitting) and increase penalty rates for environmental violations.

Increasingly, *sub-national rule-making* is moving beyond the parameters set by the national laws in order to reflect environmental priorities of localities. Provincial and local governments may create ambient and discharge standards for pollutants not specified in national standards, and establish stricter limit values for pollutants than those of national standards. The national-level authorities generally favour such independent local lawmaking initiatives, especially when they are considered premature to be promoted nationwide.

13.2. Institutional Framework for Compliance Assurance

Central level

The Ministry of Environmental Protection (MEP)[1] is the national-level administrative body responsible for environmental management. The MEP's functions include preparing and implementing national policies, legislation, and regulations related to water and air

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quality, solid waste management, nature protection, and nuclear/radiation safety. The MEP is also in charge of formulating environmental quality criteria and pollutant discharge/emission standards at the national level, organising environmental quality monitoring, and initiating enforcement activities together with local environmental authorities.

The MEP's mandate does not cover natural resources management. This is in the competence of the Ministry of Land and Resources (land use planning, mineral and marine resources management, land rehabilitation), the Ministry of Water Management (watershed management, groundwater regulation), and the State Forestry Administration (forest management and nature conservation).

Under the MEP, the Bureau of Environmental Supervision (BES) is in charge of compliance assurance. Its responsibilities include developing policies and regulations for environmental compliance and enforcement; responding to public complaints on environmental matters; organising and conducting national environmental enforcement campaigns; and guiding institution building of lower-level enforcement units across the country.Although very few, there are still some state-owned enterprises, especially big coal-fired power plants, that are under BES's direct supervision. The BES also provides guidance to local enforcement staff on investigating non-compliance and taking enforcement actions.

In 2003-2006, *five regional environmental compliance and enforcement centres* were established by the MEP. They allow the BES to co-ordinate efforts to investigate serious pollution cases, help to resolve cross-regional environmental disputes, and supervise enforcement by provincial environmental authorities. The regional centres are funded by the central government.

At the central level, besides the MEP, there are other government agencies taking part in environmental compliance and enforcement, including, among others, the National Development and Reform Commission, Ministry of Supervision, Ministry of Justice, State Administration for Industry and Commerce, State Bureau of Maritime Affairs, Fishery Supervisory Authority, Administration of Work Safety, State Electricity Regulatory Commission, and China Banking Regulatory Commission. They work in collaboration with the MEP to enforce environmental laws and regulations.

Sub-national level

Responsibility for compliance assurance lies principally at the local level. In 2006, there were over 3 060 Environmental Protection Bureaus (EPBs) in China at the provincial, prefecture/municipal, district/county, and township administration levels with about 53 000 total staff. The staff included over 800 inspectors at the provincial level, about 7 450 at the city level, and almost 38 000 at the county/district level.

The 2006 regulation issued by the MEP and the Ministry of Supervision defined compliance assurance responsibilities at the local level. In each EPB, there is a division responsible for environmental compliance and enforcement. Supervision bureaus investigate pollution cases, conduct both regular and unannounced inspections, respond to citizen complaints, and initiate legal actions against firms that fail to meet environmental requirements. In some local EPBs, there is institutional separation between permitting and inspection functions. Environmental inspectors are expected to co-operate with the police in investigating environmental crimes.

Other administrative units of local governments are also engaged in environmental policy implementation:

- *Environmental Protection Commissions of local governments* co-ordinate EPBs' work with that of other government bodies.
- *Mayor's offices* make key decisions on large investment projects involving industrial development and environmental protection. They also settle disputes between local EPBs and enterprises.
- A number of *industrial bureaus* have environmental protection divisions (EPDs) that assist enterprises associated with their bureaus with technical aspects of pollution control. EPDs generally have more contacts with their affiliated enterprises and know more about their pollution problems than EPBs. However, under the current government reform, industrial bureaus are being restructured with part of their functions transferred to industrial associations.

EPBs receive guidance from the MEP but institutionally and financially they are subordinate to provincial and local governments. Thus the actions of EPBs are directed more by those governments than by the MEP, as local governments tend to favour economic development over environmental considerations, which often compromises the stringency of environmental enforcement. To avoid that, some provinces and centrally administered municipalities have established inspectorates that are separate from the EPBs. All provincial EPBs were given a status of independent agencies in 2000. In addition, the MEP is now involved in the appointment of the heads of local EPBs.

Local governments are delegated more responsibilities by the central government for addressing local problems and are expected to provide local funds to do that. Some cities like Dalian, Shanghai and Xiamen routinely invest a significant percentage of their local revenues in environmental protection and have developed relatively well staffed and well funded EPBs. However, it is widely acknowledged that, in general, financial and human resources as well as technical equipment of local EPBs are insufficient.

13.3. Regulatory Regimes

Regulated community

The MEP estimates that about 557 000 facilities were regulated by China's environmental authorities in 2006, with some 112 000 among them subject to environmental permits.

Under the National Pollutant Discharge Reporting and Registration Programme, each industrial facility has to report its raw material use, pollution discharge, and environmental management efforts. Based on the self-reported data, local EPBs are supposed to build their own pollution inventories and submit them to the MEP for compiling a national pollution registry. However, in reality, very few environmental agencies have accurate information about their regulated community due to the lack of data management.

In 2008, companies across the country had to provide detailed pollutant release information for the China Pollution Source Census which will be published in 2009. There are sanctions for inaccurate reporting.

"Three Synchronisations"

The system of "*Three Synchronisations*" (also called "three simultaneous steps") introduced by the EPL requires that 1) the design, 2) the construction, and 3) the operation of a new

industrial enterprise (or an existing factory expanding or changing its operations) be synchronised with the design, construction and operation of an appropriate (end-of-pipe) pollution treatment facility. Moreover, an environmental impact assessment report is required before a facility is issued a construction permit by a competent economic development authority.

Once the construction of a project is completed, inspection and approval by environmental administrations are required (for large projects, or in case of a dispute at the local level, the approval has to be confirmed by the national level authority) before an operating permit is issued. If project operations begin without approval from a local EPB, the owner of the project can be sanctioned. However, in many instances, the "3S" procedures are not strictly followed, and sanctions associated with non-compliance with the 3S procedure are seldom applied by local authorities.

To overcome the implementation problems, a deposit-refund system for "3S" in construction projects has been introduced in some provinces. Deposits, which are based on the project's total investment cost, can be returned to investors upon approval of the project's "3S" requirements. However, the deposit-refund system still has no adequate legal basis and no clear criteria for evaluation and return of the deposits.

Discharge Permit System

Under the *Discharge Permit System (DPS)*, EPBs issue permits that limit both the quantities and concentrations of pollutants in a facility's wastewater discharges and air emissions. Generally, an EPB is responsible for permitting of enterprises located in its area of jurisdiction. However, there are state-owned enterprises of a certain administrative status which are permitted by an EPBs of the respective level or even by the MEP itself.

Local EPBs currently have flexibility in developing their own environmental permitting systems. Permits for air pollutants are usually valid for one year, for water pollutants – no longer than five years. Some EPBs (*e.g.* in the city of Xi'an) issue single (integrated) environmental permits to facilities under their jurisdiction, but choose case by case whether to impose less stringent national or more stringent local standard as a facility's emission limit values. Some other EPBs, however, do not issue permits at all and require direct compliance with local emission and effluent standards. The MEP is planning to introduce national guidelines that would provide for a single environmental permit whose issuance would be integrated with the "three synchronisations" process.

13.4. Compliance Promotion

Information dissemination to the regulated community

The MEP is not very active in informing industries of the developments in environmental regulations and standards. It has published guidance documents for several industrial sectors but they are considered too general and not suitable for SMEs with very diverse technologies. In recent years, the MEP has been trying to promote environmental management in industry by organising conferences. However, these conferences can only reach a small group of enterprises that have already committed themselves to environmental protection and want to do better. For a large share of enterprises that are frequently out of compliance, there is most often no compliance assistance centre or directory of experts readily available to seek help from if they want to improve their compliance status. Some EPBs have realised the importance of compliance promotion and established service hotlines and websites using

which industries can obtain compliance information. However, there is usually no funding for compliance assistance activities.

Most Chinese trade associations are not sophisticated enough to provide compliance assistance to their member enterprises. However, there are several major ones such as the China National Textile Industry Council and the China Coal Processing Association, transformed from sectoral ministries into industry associations (representing mostly large industry), which have their own environmental offices, organise environmental seminars for their members, and disseminate information through their own newspapers, journals, websites, and e-mail.

Promotion of good environmental management

The growing access to international markets has stimulated Chinese enterprises to introduce *environmental management systems* based on the ISO 14000 standards. In 1997, the State Bureau of Technical and Quality Supervision transformed the ISO 14000 series into equivalent national standards. A national approval scheme for ISO 14001 certification was introduced, along with a system of examination of certification entities by a national accreditation body and national registration of auditors.

The Chinese government offers economic incentives, mainly subsidies (*e.g.* tax and administrative fee reductions, reduced water prices), to encourage companies to obtain EMS certification. The MEP's Environmental Certification Centre established in 2003 with a staff of 40 auditors is a financially autonomous body which processes applications for ISO 14001 certification. In addition, there are over 100 other certification entities, mostly supported by the government. Certification is obtained primarily by fast-growing small and medium-sized Chinese companies.

The MEP and some local EPBs have established *environmental recognition programmes* which evaluate industrial performance within their jurisdictions and name excellent performers "environmentally friendly" or "green" enterprises. There are national, local and sectoral enterprise appraisal systems, including National Excellence Enterprises for Environmental Protection, National Excellence Units for Energy-Saving, Clean and Civilised Enterprises in the chemical industry, Garden Enterprises distinguished in Beijing and Shanghai, Top Ten Worst Environment Enterprises and Best Environment Enterprises appraised in Shenyang, etc. Obtaining EMS certification is usually one of the requirements for recognition. These schemes help to promote compliance in industry, but the government rarely follows up to enable excellent environmental performers to capitalise on their environmentally friendly behaviour. Therefore, the effect of such programmes is limited.

Financial incentives

China uses a number of innovative schemes to exert economic pressure on environmental offenders:

- The recent "*green credit*" *initiative* uses environmental performance as a factor in loan decisions by banks. Loan applicants with poor compliance records have to pay higher interest rates, and serious violators should be denied access to bank loans. The MEP and the People's Bank of China have entered the details of 15 000 violations of environmental law into a database that has been made available to commercial banks.

- The MEP and China's Ministry of Commerce announced in October 2007 that companies with serious environmental violations would be subject to an *export ban* for one to three years. A database of exporters with poor environmental compliance records is being set up for this purpose. In addition, for companies listed at the Hong Kong Stock Exchange bad environmental reputation may cost millions of dollars in lost profits.
- The "*green securities*" *scheme* introduced by the MEP in 2008 mandates environmental performance disclosure for stock exchange-listed companies to restrict access to capital for recalcitrant environmental offenders. Companies in several key sectors (*e.g.* thermal power, steel, cement) already need MEP approval before applying to the securities regulator to sell shares.

On the other hand, the government often provides direct grants to enterprises (primarily state-owned ones and SMEs) for the installation of pollution control equipment or construction of communal wastewater treatment plants.

Role of public pressure

The MEP has become interested in public disclosure as a means to complement traditional compliance assurance instruments. The MEP launched the *Green Watch* public disclosure programme for industrial polluters in 2003. It requires provincial and municipal EPBs to publish lists of polluters exceeding discharge standards. In 2005, the MEP issued guidelines to promote the disclosure programme nationwide.

EPBs in 26 provinces compile information on firms' environmental performance and evaluate it by a colour code. The colour rating for each individual enterprise is calculated on the basis of self-monitoring pollution data, administrative records (covering inspection, public complaints, and administrative penalties), and surveys on firm-specific characteristics such as the existence of an EMS. The colour rating results are published in local newspapers and broadcast on local TV and radio (in some provinces – on the Internet). The rating scheme is voluntary and offers participants an opportunity to discuss the result with the authorities before disclosing it to the public. However, some local governments are reluctant to publish information on poor environmental performance of locally important businesses.

The "*Measures on Open Environmental Information (for Trial Implementation)*", effective 1 May 2008, require EPBs to disclose 17 different kinds of environmental information, including lists of enterprises violating discharge standards, causing major pollution accidents, or refusing to obey compliance orders. In addition, the "Measures" impose obligations on corporate disclosure of violations of discharge limits in the local media. Polluting enterprises that fail to comply with the disclosure requirements are subject to significant fines. Besides making disclosure mandatory for "listed" polluters, the measures encourage other companies to voluntarily share pollution data with the public.

13.5. Compliance Monitoring

Compliance monitoring instruments

The level of compliance by enterprises with pollution standards and permits and the payment of pollution charges are checked through environmental inspections carried out by EPBs. Private enterprises are inspected by the EPB of the jurisdiction where they are located. State-owned enterprises which are assigned a special administrative status are inspected by a respectively higher EPB.

About half of all the inspections are integrated, with same inspectors covering all the media, although inspections in reaction to accidents or complaints are usually medium-specific. During site visits, inspectors either use mobile monitoring equipment or take samples on-site, and then bring them to monitoring stations for analysis. (Besides EPB inspections, monitoring stations subordinated to local EPBs also conduct monthly on-site monitoring at large industrial facilities.)

While regular (unannounced) inspections are generally conducted once a year, important pollution sources listed by the MEP in accordance with their environmental impact and compliance record may be inspected up to four times a year. EPBs usually target big polluters while the majority of SMEs, especially in rural areas, are not inspected at all due to the lack of capacity, even though their aggregated pollution volume can be very large. To cope with the lack of capacity to systematically cover major pollution sources, many local EPBs have adopted inspection targeting based on citizen complaints about pollution incidents.

Many EPBs have "complaint divisions" to hear public concerns. In many localities, there are 24-hour "12369" telephone hotlines to allow citizens to report environmental problems (provincial EPBs and the MEP have their own telephone numbers to receive complaints). Since 2002, about 2 000 environmental hotlines have been established in China, covering over 70% of its territory.

Frequently, citizens first complain to the factory causing the problem and turn to environmental authorities or the media only if the operator is not responsive. It is not unusual for EPBs to receive anonymous telephone calls tipping them off about environmental violations. Sometimes, plaintiffs are rewarded financially for providing information on non-compliance. The complaint-based inspection approach is biased, however, because citizens usually do not have the technical knowledge to assess environmental risk, and regulatory resources tend to be primarily allocated to issues that are more visible.

Almost every year, the MEP, in co-operation with local EPBs, conducts country-wide *inspection and enforcement campaigns* to follow up on major industrial accidents (such as the Songhua River accident in November 2005) or to address specific environmental problems such as excessive pollution from small industries, pollution from mining activities, industrial parks, urban wastewater treatment plants, etc. The number of facilities inspected during such campaigns rose from 201 000 to 720 000 between 2003 and 2006.[2] The campaigns often involve shutting down non-compliant enterprises and other drastic measures decided by local governments. In 2006 alone, 92 400 prosecutions were initiated, over 10 000 facilities were definitively closed, and almost 20 600 were given compliance deadlines as a result of the campaigns.

The impact of environmental enforcement campaigns evolved over the years. In the 1990s, campaigns were often sectoral and relied purely on administrative sanctions and massive investments in pollution control. Increasingly, they have become cross-sectoral (with participation of several other government agencies), combining regulatory and social measures. The main strength of this approach has been its power to mobilise broad and deep support in the society for addressing a key issue. EPBs view environmental enforcement campaigns as opportunities to enhance their credibility with polluters and demonstrate their accomplishments to higher level officials.

However, this approach also has its weaknesses. Many of the closed polluting plants reopen after the campaign with support of local governments. Many enterprises that meet

emission standards do so only by diverting their effluents elsewhere or by temporarily slowing down production. Also, the campaigns give automatic priority to "easy" solutions such as facility shut-down or comprehensive spending schemes, without looking for most cost-effective ways to achieve the goals. So far, no comprehensive evaluation of environmental and economic effectiveness of inspection campaigns has been conducted.

Self-monitoring

Industry is required to provide pollutant discharge information to the MEP and local EPBs. The reporting frequency is usually annual but can be increased by a local EPB to semi-annual or quarterly for priority facilities. In Jiangsu province, for example, continuous monitoring facilities are installed in large enterprises. Their monitoring equipment is certified every year by an official monitoring station to ensure its proper functioning.

Most enterprises do not have their own monitoring equipment and contract state-owned or private monitoring service providers to take measurements and then report the data to their local EPBs. Personnel of an official monitoring station conduct regular and unannounced inspections of private monitoring service providers for quality assurance. In addition, enforcement officers conduct on-site monitoring of pollution releases to check the accuracy of self-reported pollution discharge.

13.6. Non-compliance Response

Administrative enforcement

The 2001 Administrative Penalty Procedures set forth guidelines for national and local enforcement staff for establishing and investigating non-compliance and applying enforcement actions to violations of national and local environmental laws. When non-compliance is established, inspectors usually first issue warning letters and then, if non-compliance persists, impose fines on the company and/or its manager, or withdraw the permit for a part of, or the whole, facility. An enforcement officer can impose sanctions on the spot during site visits but usually the decision is made by the EPB's legal office. Individuals directly responsible for violations may also face disciplinary sanctions. The procedures state that the severity of a penalty can be adjusted depending on the degree of violation, its recurrence, and the operator's actions to correct it. However, the procedures are open to interpretation by local environmental officials.

Fines (per violation) are the most frequently applied measure, accounting for over 60% of non-compliance responses. In 2004, the EPBs imposed sanctions in 80 000 cases of violation of environmental laws across China, with monetary penalties of CNY 460 million (EUR 43 million). There are no clear guidelines on how to determine the amount of a fine in a specific case, and the fines are usually too low to provide effective deterrence against violations. Revenues from the fines go to the local budget.

Compliance schedules (called "pollution control within deadlines") are also frequently used: they require enterprises to reduce their pollution releases to acceptable levels by specific dates. In recent years, the system was expanded by offering possibilities for technological renovation, phase-out of outdated technologies and products, and promotion of cleaner production in exchange for negotiating longer deadlines. For enterprises that fail to come back into compliance within deadlines, the authority (usually, the local government) that has set the deadline can decide to suspend or shut down their operation.

However, there is a gap between the sanctions EPBs are authorised to apply and the actual enforcement actions. EPBs often rely on *guanxi* (social connections) with regulated enterprises – developing mutual understanding, providing technical and financial assistance, and negotiating reasonable compliance deadlines. This approach has been applied with some success in China, but frequently EPB staff avoid stringent sanctions for non-compliance in order to maintain good relations with enterprises. EPBs usually do not publicly disclose their enforcement decisions, except in cases of criminal enforcement.

The local governments often have different views from EPBs on the balance between development and the environment, and the policies of local governments generally prevail in cases of conflict. As a result, EPBs are typically lenient toward polluters that generate fiscal revenues or create local employment, are owned by the local government, or have politically influential owners or managers. Some local governments set up "umbrella" schemes, prohibiting the environmental authorities to inspect and impose fines on firms that are significant polluters but are considered important to the local economy. This problem is more acute at the municipal than at the provincial level, particularly in poor areas. In addition, foreign businesses often receive preferential treatment and are rarely enforced against.

Operators or the public that consider administrative penalties unreasonable can appeal the enforcement decision to the government agency which is one level above the one that made the decision. If the administrative decision is still not satisfactory for the appellant, the case can be brought to court. In many administrative proceedings, enforcement agencies lose due to a lack of convincing evidence (*e.g.* monitoring data) presented before the court. At the same time, disputing parties in China often prefer to resolve their differences using informal negotiations in which compromises are made to reach consensus.

Pollution charges

To complement administrative sanctions, China has a comprehensive system of pollution charges dating back to 1982. Pollution charges link an economic incentive for pollution reduction with sanctions in case of non-compliance. A total of CNY 14.3 billion worth of pollution charges was collected in 2006.[3]

Charges are imposed on 65 water pollutants and 44 air pollutants specified by the national discharge standards. Before 2003, only discharges that exceeded emission/discharge standards were subject to a charge. Currently, the charge formula incorporates both concentration and volume: it calculates a pollutant-specific discharge factor based on both the total load of pollutants and the degree to which each pollutant concentration exceeds the standard. The polluter is charged for the highest three of the calculated potential charges rather than a cumulative amount of all calculated charges. The charge rates are set by the central government. Charges increase with the duration of non-compliance. After two years of paying the charge, polluters are subject to an annual 5% increase in the charge rate.

In practice, the charge amount is usually negotiated rather than calculated using formulas detailed in regulations. A payment can be reduced or even waived at the discretion of a local EPB after appropriate inspections. Payment may also be postponed if the polluter cannot afford to pay, although such reductions or exemptions are not allowed by the law.

Despite the recent increases of pollution charge rates, the charges are still too low to be a significant incentive for pollution reduction. In addition, the charge collection rate is low, estimated on average at less than 50% of the charges imposed (between 10% in western provinces and 80% in coastal areas), which further reduces their incentive effect. Since recently, the revenue from charges no longer contributes to operating expenses of environmental authorities but is directed via local budgets toward environmental protection measures, purchase of monitoring equipment and new technology (10% is transferred to the central government).

Criminal enforcement

Parties directly responsible for pollution incidents that involve big economic loss, public health damage, or deaths face criminal charges. The 1997 amendments to the *Criminal Law* made, for the first time, environmental offenders subject to prosecution. According to that law, criminal violations include those causing serious pollution accidents (the law is silent about liability for potentially dangerous activities) and "breaching the duty of environmental supervision and control" on the part of government officials. The police are charged with investigating environmental crimes together with the prosecutor's office. Environmental authorities are consulted to facilitate the investigation and provide information.

Criminal sanctions can include up to three years of imprisonment (for most egregious violations – up to seven years), confiscation of illegal earnings or equipment, mandatory treatment or remediation of effects of pollution, a fixed fine, and fines measured as a percentage of illegal earnings or of the cost of treatment.

To date, a number of high profile cases of environmental crime have been filed in the courts but, in general, this avenue has not been used very often due to the difficulty in establishing causal relationships between pollution and harm, uncertainty over the legal responsibilities, and long judicial procedures. As a result, many environmental criminal offences are punished only administratively. Less than 20 cases have been prosecuted to date under the Criminal Law.

Civil liability

The vast majority of environmental litigation cases in China are so-called "pollution compensation cases" in which plaintiffs seek compensation for losses to property or health caused by pollution.

Cases involving illegal pollution discharges from a factory can be tried under the *Civil Law*, with the aim of stopping the discharges and receiving compensation for damage. A methodology for assessing monetary compensation for illegal pollution discharges is not specified in the Civil Law or the EPL. Damage to health and welfare of individuals as well as costs of environmental restoration are assessed by experts on a case-by-case basis. The liability is considered strict (there is no need to prove a violation, at least in theory), but in practice the liability in the absence of either intent or negligence is very difficult to establish.

The Civil Law also contains provisions on collective litigation, which have proven effective in providing legal protection to victims in civil environmental lawsuits. However, in 2006, China's Supreme Court banned class action suits above the basic-level courts, which will make defending citizens' rights in court much more difficult. Only public

prosecutors (not individuals) can bring a lawsuit to court in the public interest while an environmental authority cannot be party to a civil suit.

Although some localities have been exploring environmental compensation mechanisms, presently there are no clear national policies on this matter. In early 2008, the MEP came up with a joint proposal with the China Insurance Regulatory Commission (CIRC) on pilot initiatives for compulsory environmental liability insurance for high-risk industries. An insurance system to cover environmental disasters and ensure that the victims of major pollution incidents receive due compensation is intended to cover all industries with a high risk of pollution incidents by 2015. In the pilot phase, the MEP and CIRC will require firms dealing with high-risk chemical products, petrochemical companies, and those involved in hazardous waste disposal to join the insurance scheme.

In most cases, pollution victims are not successful in redressing their losses in court. Local governments most often back the polluting enterprise. Even when the court decides in favour of plaintiffs, it can be difficult to stop the violation or obtain payment of compensation. Sometimes the defendant would win in a lower court (and save its reputation) but then negotiate a favourable settlement with the plaintiffs to prevent appeals and further publicity.

13.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

Until 2003, EPBs were dependent on revenues from pollution charges to finance their operations. Prior to the reform, 80% of the pollution charge revenues were earmarked and returned to enterprises that paid the fees; the rest was kept by environmental agencies that collected them. In 2003, the control over the appropriation of pollution charge revenues was transferred from EPBs to local governments' finance bureaus while compliance and enforcement bureaus of the EPBs are still responsible for collecting the charges. EPBs have to apply to use the funds managed by finance bureaus, which has led to the shortage of funds and consequent staff losses in some locations.

EPBs assess administrative fees for permitting, inspections, and monitoring/sampling. Payment levels are decided by pricing bureaus at the provincial level in consultation with provincial EPBs. There is no national standard or guidance on the rates of administrative fees payable to EPBs, but according to the Administrative Procedure Law, all the pricing information should be transparent and public. The revenues go to local finance bureaus.

Strategic planning

The general strategy that the MEP has adopted to achieve better compliance by the regulated community is to target specific industries and pollution sources that pose significant environmental and health risks to society, based on prior knowledge. Under the 11th Five Year Plan (which, among others, introduced evaluation of local governments against both development and environmental targets), the MEP is focusing on big energy consumers and large polluting industries.

The "Environmental Programme for Bringing into Compliance Illegally Discharging Enterprises and Protecting Public Health" is an umbrella nationwide enforcement strategy under which EPBs at all levels are expected to develop their own enforcement plans, including annual enforcement targets. However, the MEP still lacks a consistent strategy for better environmental compliance by the regulated community.

Performance assessment

There is a growing sense of urgency among the top Chinese leadership and ordinary citizens to evaluate the effectiveness of enforcement actions. Although provincial EPBs submit annual reports to the MEP and receive similar reports from lower-level EPBs, the assessment of performance of compliance assurance programmes is underdeveloped and seldom undertaken. The existing compliance and enforcement indicators focus on input and output measures: number of enforcement officers, number of inspections or enforcement campaigns and number of non-compliance actions (*e.g.* temporary closure), amounts of fines and pollution charges collected. The indicators also include rates of compliance with the key regulatory instruments, such as "three synchronisations", EIA, and collection rates of pollution charges.

These indicators were presented in the White Paper on Environmental Protection in China (1996-2005) published in June 2006 by the State Council's Information Office. The document provided an overview of the implementation of the 9th and 10th Five Year Environmental Plans, including progress in compliance assurance efforts. However, none of the reporting mechanisms contains outcome indicators of enforcement programmes. In 2007, the MEP launched a quantitative (scoring) system for assessing the performance of provincial EPBs, but this system does not include rates of compliance of the regulated community with environmental standards.

The evaluation of the implementation of environmental requirements by local governments is usually linked to the achievement of annual environmental performance targets for individual officials set in "environmental protection contracts" which represent an environmental dimension of personnel management. Local EPBs are responsible for executing the "contracts" and reporting progress to their mayors or governors. Results are recorded and used as supporting documents for promotions and bonuses of officials. Top managers evaluate their staff's performance but assessment results are shared only among government officials and not made public. Generally, though, local government officials are motivated by environmental targets only to the extent that does not make them lose face by being reprimanded by their supervisors for inadequate performance.

Staff training

To ensure the achievement of the environmental targets of the 11th Five-Year Plan, the MEP has developed the 11th Five-Year Plan for the Building of National Capacity in Environmental Supervision, a first self-development plan in the history of environmental protection in China. The Plan, approved and supported by the NRDC and the Ministry of Finance, envisages total investment of almost CNY 15 billion, including CNY 7.8 billion from the central government. The tasks specified in the plan include strengthening the compliance monitoring capacity of pollution sources, promoting the uniform development, improving the infrastructure and working conditions of environmental enforcement institutions, etc.

At the central level, the MEP has been working with the Environmental Defence Fund, a US-based environmental NGO, to design and implement its training programme. The major goal is to orient enforcement officers in the fast changing institutional environment and to equip them with the skills required for communicating and negotiating with the regulated community and facilitating better compliance. Elective courses on environmental

economics and economics of regulation conducted by university professors have also been offered to the staff.

The MEP conducts courses for newly recruited inspectors at the central and provincial levels, while provincial EPBs periodically (albeit irregularly) conduct training to improve the skills of lower-level authorities. The MEP estimates that each inspector receives an average of seven days per year worth of training. Still, according to some EPB officials, staff qualification remains a problem, as many inspectors are young and lack work experience.

Notes

1. The State Environmental Protection Administration (SEPA) was elevated to the status of a ministry in early 2008.
2. China Environmental Statistics Annual Report, 2007.
3. Lu Xinyuan, Director General, MEP Environmental Supervision Bureau, AECEN Forum presentation, Beijing, December 2007.

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PART II

Chapter 14

Russian Federation

14.1. Key Features of the Legislative Framework Related to Compliance Assurance

In Russia's legal framework, there are legislative acts which govern environmental protection and use of natural resources in general. They set cross-cutting requirements and provide for the overall framework of environmental management. Among them, the key act is the Federal Law "On Environmental Protection" of 2002 that superseded a similar law which had been in effect since 1991. It stipulated a wide range of environmental policy instruments and introduced new concepts. The law required the adoption of many implementing regulations, a number of which are still not in place.

The 2001 Code of Administrative Offences expanded considerably the list of the constituent elements of environmental offences. Under the Code, several agencies are authorised to impose administrative penalties in their areas of competence. It also expanded the range of subjects of administrative liability: in addition to individuals and officials, legal entities are now also held liable. Penalties for legal entities are considerably higher than those for other categories of offenders. The Administrative Code has a chapter entirely dedicated to offences against the environment and natural resources. Similarly, a special separate chapter on environmental crimes was included in the Criminal Code for the first time in 1997.

Since the early 2000s many sub-national authorities have adopted local legislation which has no federal-level analogues or which details considerably the federal provisions, taking into account environmental, industrial, agricultural, and other specificities of the region. For example, the City of Moscow passed a special law on environmental compliance assurance.

14.2. Institutional Framework for Compliance Assurance

Federal level

The key authority responsible for formulating and implementing the environmental policy and law at the federal level in Russia is the Ministry of Natural Resources and Ecology (MNRE). The Federal Service for Environmental, Technological, and Nuclear Supervision (*Rostekhnadzor*, or RTN) and the Federal Service for Supervision over Use of Natural Resources (*Rosprirodnadzor*), both subordinated to the MNRE,[1] supervise industrial impacts and natural resource use, respectively. At the same time, compliance assurance responsibilities are delegated to the constituent entities of the Russian Federation.

At the sub-national level, there are eight Inter-regional Territorial Departments for Technological and Environmental Supervision (in seven Federal Districts and Moscow), eight Inter-regional Departments for Technological and Environmental Supervision (each for several subjects of the federation), and 60 Departments for Technological and Environmental Supervision in individual constituent entities of the Federation. At the sub-national offices of *Rostekhnadzor*, inspection staff and permitting specialists operate at

different units, but the inspection unit always has access to the permit and licence information.

There is a wide range of other official actors that are involved in compliance assurance, including a variety of ministries, such as those covering public health, industry, economic development, agriculture, and transport. Sometimes this results in an overlap of functions, but co-ordination among different authorities is gradually improving. In 2007, a practice of signing co-operation agreements between RTN and prosecutor's offices and the police was launched at the federal and sub-national levels.

Sub-national level

Lately, environmental enforcement in Russia has been evolving toward greater decentralisation: as of 2006, local administrations (including at the municipal level) received the right to regulate and inspect certain segments of industry. The following regulated entities remained under federal jurisdiction and are regulated by RTN's territorial units:

- Nuclear power plants, military units, and facilities situated on land in federal ownership.
- Facilities that have adverse impact on the World Cultural Heritage and World Natural Heritage sites and facilities contributing to cross-border environmental pollution.
- Facilities that annually store or dispose of more than 10 000 tonnes of hazardous waste of 1st or 2nd class; discharge over 15 million m^3 of wastewater, and produce more than 500 tonnes of air emissions.

It is expected that Federal Law No. 199-FZ (2005) on the division of responsibilities between federal agencies and executive authorities of the subjects of the federation will be fully implemented with respect to environmental compliance assurance in 2007-2009.

The institutional capacity at the regional and municipal levels varies considerably. Several administrations have set up strong environmental committees that assumed compliance assurance functions. In other regions, the administrations tend to delegate energy, municipal services, and environmental management to one department where environmental issues are the smallest priority. At the municipal level, in most cases there are no environmentalists or there is just one person who must combine the environmental function with several other control functions.

14.3. Regulatory Regimes

Regulated community

The regulated community is relatively well identified, mostly through permit applications. In 2007, a federally funded project was launched to develop a system of state registration of regulated entities with web-based access for all RTN offices.

Although the structure of the regulated community has evolved over the last decade, large industrial enterprises continue to be the greatest contributors to the pollution from point sources. The number of small businesses in Russia has not really grown since the mid-1990s, and the 900 000 SMEs that exist generate only about 12% of GDP. The specificity of Russia is the quasi-absence of SMEs specialised in technology-intensive activities. The vast majority of Russia's SMEs are very small firms, often individual entrepreneurs engaged mostly in trade, construction, or services.

Permitting

For installations under federal jurisdiction, permits for air emissions, effluents, waste disposal, as well as licences for waste handling are issued by RTN's territorial departments. Other agencies, such as the Federal Water Resources Agency (which has mostly planning and service functions) and Rosprirodnadzor, both under the MNRE, and regional and municipal governments, are consulted during the permitting process.

Permitting of environmental pollution continues to be medium-specific and focuses mostly on end-of-pipe solutions. Emission limit values (ELVs) set by permits are derived from environmental quality standards using modelling software. Since the environmental quality standards are quite stringent, in certain cases the ELVs are technically unfeasible. In order to overcome the problem of ELVs' frequent lack of technical and economic feasibility, the instrument of "temporarily agreed emission limit values" has been used. Temporary limits can be set, assuming that the permit requirements would be achieved gradually. However, adherence to compliance schedules has been hardly enforced.

Despite an active discussion among Russian experts of the feasibility of moving toward integrated environmental permitting based on best available techniques (or technologies, in the Russian terminology), a short-term transition to integrated permitting is unlikely. On the contrary, it is planned to transfer the responsibility for issuing permits for wastewater discharges to the Federal Agency for Water Resources.

Permits are commonly valid for one to three years, sometimes for up to five years. The operator can appeal a permitting decision administratively (*e.g.* to RTN's central office) and in court. Permits are not available to the public.

14.4. Compliance Promotion

Information dissemination to the regulated community

Compliance assistance is not part of the responsibilities of environmental enforcement authorities in Russia, and there are doubts whether an enforcement authority should become involved in such activities. It is believed that industry should request compliance assistance from consulting companies on a commercial basis. Therefore, guidance documents for the regulated community are rare and often produced within donor assistance projects. At the same time, providing online access to legal acts and regular publishing of news has become a rather regular activity for both *Rostekhnadzor* and *Rosprirodnadzor*.

Promotion of good environmental management

Environmental management systems are becoming increasingly common in Russia. Promotion of EMS certification according to ISO 14000 standards, training of company management and staff, and development of guidelines is done by a range of stakeholders: consulting companies, research institutes and universities, and NGOs. It is noteworthy that the State Standardisation Agency (*Gosstandart*) has accredited several voluntary environmental management systems per GOST R ISO 14001-98 that transposes the ISO 14000 series standards in Russia. One of the challenges faced by the authorities certifying those systems is the international recognition of the certificates they issue. Enterprise managers seeing ISO 14000 standards as mandatory is typical in the Russian context, which is largely due to the lack of a clear position of the environmental authorities *vis-à-vis* EMS.

In recent years, environmental ratings of individual enterprises have been used more and more frequently in Russia. Currently, there are several rating agencies which use

different rating techniques. For example, the Chamber of Trade and Industry makes annual awards to "best enterprises in environmental policy implementation". However, criteria used are not always clear and transparent, making it difficult to assess the effect of these ratings on the performance of the regulated community.

Financial incentives

The draft law "On Charges for Adverse Environmental Impact" (under development for many years) advocates, among other things, the reinstatement of the offsets scheme which was in place until 1998, which provided an opportunity to deduct expenditures on eligible environmental projects from pollution charge payments (see also Section 14.6). In the past, the offsets were often granted to those enterprises that did not pay charges anyway, defeating the incentive purpose of the scheme and the pollution charge system as a whole.

14.5. Compliance Monitoring

Compliance monitoring instruments

Various types of inspection are used. Multimedia inspections constitute a large share of inspections conducted by the sub-national bodies of RTN. When non-compliance is detected and corrective measures are prescribed, a follow-up inspection is usually scheduled. Unscheduled site visits are carried out in the event of accidents, threat to human health and the environment, damage to property, or complaints. Every site visit must result in an inspection record stipulating the violation(s) revealed, the legal requirements that have been violated, the cause(s) of non-compliance, and the corrective actions prescribed. Inspection reports are not disclosed to the public.

Annual inspection plans are usually posted on websites of competent authorities. Inspection priorities are defined based on industry size and its potential adverse environmental impact. This kind of information is available internally from officials responsible for issuing permits, as well as from the federal statistics authorities. However, priority setting is not systematically supported by the analysis of factors leading to offences.

The Federal Law (2001) "On the Protection of Rights of Legal Entities and Individual Entrepreneurs during State Control/Supervision" forbids scheduled inspections to be held more frequently than once every two years. Furthermore, it requires that all inspections be announced. This restrictive practice was mainly triggered by the need to reduce administrative burden on industries and corruption among government officials. Currently, a possibility is being considered of completely shielding small businesses from any inspections not sanctioned by a prosecutor or a court. Data available from environmental authorities do not allow to accurately define the actual frequency of scheduled inspections or the share of the regulated community covered by inspections each year. In general, since 1999 a sharp reduction in the number of inspections has been recorded.

Self-monitoring

Under Russia's environmental legislation, all industrial installations have the responsibility to ensure environmental self-monitoring and reporting. Self-monitoring programmes are a part of the permitting documentation. In principle, they are valid for five years while sampling schedules are updated annually. Regulated pollutants can be monitored directly at the source or by determining their concentration in the environment

(within the so-called "sanitary protective zone"). Indirect monitoring using emission factors and other means is also possible.

Operators bear full financial responsibility for implementing self-monitoring pro-grammes and provide the necessary expertise, equipment, and analytical facilities. Sometimes self-monitoring services are outsourced to accredited industrial laboratories. The sub-national bodies of RTN can require comparative measurements. (Accreditation of some industrial laboratories has been revoked when the results of such inter-calibration were unsatisfactory.) Operators must submit annual reports on their environmental performance, including forms for air, water, waste, contaminated soils, and pollution charges.

14.6. Non-compliance Response

The level of compliance in Russia does not lend itself to precise statistical expression but is judged to be low. The available data show that the number of violations discovered is roughly equal to the number of inspections.[2] At the same time, this may be due to the fact that only a small fraction of the regulated community (often, large facilities causing most compliance problems) is inspected annually.

Administrative enforcement

The traditional enforcement strategy in Russia is to respond to all identified violations with sanctions. Warning letters can be issued by RTN, but they are rarely used in practice. The possible administrative sanctions include corrective action orders, fines, suspension of activity, and permit suspension or revocation (leading to facility closure).

Although the list of tools is extensive, in practice fines are the most common punitive action. Within the limits defined in the Administrative Code, the exact amount of monetary penalty is determined by the competent authority (with revenues going to the general budget). Before 2007, the Administrative Code set minimum and maximum fines in multiples of the minimum monthly wage. Currently, the limits for fines are expressed in monetary terms. Interestingly, one of the most severe administrative sanctions are stipulated for non-payment of pollution charges (see below).

The number of activity suspensions or facility closures is also high, as many inspectors believe that this is the only kind of sanction that has a strong impact on the regulated community. An administrative penalty can be appealed to the higher competent authority or in court. Decisions on sanctions are generally not disclosed to the public.

While federal inspectors may use a wide array of administrative enforcement tools, inspectors of constituent entities of the Russian Federation have no such rights. They can only submit reports on non-compliance to the sub-national bodies of RTN or respective law enforcement authorities that are supposed to take further action. Sometimes enforcement authorities come under external pressure not to impose sanctions for economic or social reasons.

Pollution charges

Pollution charges in Russia are levied universally on all operators that are subject to environmental permits. They are imposed on up to 214 air pollutants and 197 water pollutants, as well as on storage and disposal of four categories of hazardous waste (based on toxicity) and two categories of non-toxic solid waste.

A central feature of the pollution charge system is that a set of pollutant-specific basic rates apply to discharges within established limits, whereas a much higher rate applies to discharges exceeding the limits. The applicable rate of pollution charges is five times the base rate for quantities discharged in excess of the ELV but within the temporary limit. For discharges in excess of the temporary ELV (or those without a permit), the applicable rate is 25 times the base rate. These multipliers represent the "non-compliance component" of pollution charges, effectively making them an enforcement instrument. However, the charge rates are so low compared to marginal abatement costs that the system provides very little incentive for reducing the level of pollution. In addition, with the charge base of hundreds of pollutants, the system does not reflect any policy objectives or priority pollution problems.

The collection of pollution charge revenues is the responsibility of the federal tax authorities. The revenues are divided between the general federal budget (19%) and regional budgets (usually via an earmarked budget line). The system is significantly undermined by the lax enforcement against non-payment: the collection rate does not exceed 80%.

Criminal enforcement

The number of recorded environmental crimes in Russia more than doubled between 2001 and 2006: the share of environmental crimes in the total number of crimes went up from 0.5% to 0.9% over this period. It has increasingly taken the form of organised crime, particularly in the field of natural resources use. The rate of resolved cases in very low: 4.9% in 2003, 27.3% in 2004, and 10.2% in 2005.[3] "Green" crimes still dominate the landscape, partly due to their easier detection and high priority for authorities. Crimes linked to pollution and waste are more difficult to discover or prove, making their level seem lower. Environmental pollution crimes are often recorded only in connection with major industrial accidents.

The complexity of environmental enforcement and the need for specific knowledge in the investigation of environmental crimes have led to the establishment of a network of environmental prosecutors' offices. Currently, there are 35 inter-rayon environmental prosecutors' offices in the constituent entities of the Federation and one inter-regional Volga environmental prosecutor's office (which has oblast-level rights) comprising 15 inter-rayon prosecutors' offices based in the cities on the Volga River. Still, criminal investigations and enforcement in Russia have not been particularly effective. The number of unsolved crimes reached almost 50% in 2005.

Criminal cases are referred to a prosecutor's office which decides whether to initiate a criminal case. If the violation does not constitute a crime, the prosecutor makes a decision not to open a criminal case and initiates an administrative enforcement procedure. When criminal prosecution goes ahead, the probability of a conviction largely depends on the way specific articles of Russia's Criminal Code are formulated. There is a large gap between the large number of recorded crimes for "violation of the rules of shipment of environmentally hazardous substances and waste" and the low number of those under other articles setting criminal liability for pollution, which signifies the difficulty of proving criminal liability for environmental damage. This is partly due to the low capacity of the courts to adjudicate environmental cases. Punishment for the persons convicted of environmental crimes is mostly reduced to fines or suspended imprisonment. As a result, the deterrent effect of criminal sanctions is low.

Civil liability

The instrument of civil liability as a whole and that for environmental violations in particular is one of the most developed ones in the legislation and legal doctrine of Russia. The Russian legislation declares liability for environmental damage caused by industries, institutions, agencies, or individuals by environmental pollution, deterioration, destruction, impairment, and mismanagement of natural resources, destruction of natural environmental systems, or other environmental offences.

Civil liability has been least affected by the regulatory reform in recent years. Although the new Civil Code and Labour Code took effect in 1995 and 2002, respectively, the grounds for, principles, procedures, and other features of civil environmental liability remained practically unchanged. They rely on the approaches developed in the environmental legislation in the early 1990s. Damage compensation can be paid voluntarily or ordered by a court according to the officially approved rates and damage assessment methodologies or, in the absence thereof, based on the actual costs of remediation of the environment and losses (including opportunity costs) incurred by private parties. Instead of imposing a monetary damage compensation, the court may order the defendant to rehabilitate the environment at its own expense.

The existing system for environmental damage assessment has important methodological and legal gaps. The damage assessment methodologies are imperfect and inconsistent across the country (some local authorities have promulgated their own regulatory guidance on the matter), standard rates for many types of damage are too low, and procedures for imposing and collecting damage compensation have not been defined in the legislation.

As a result, there are few damage compensation suits in Russia. Still, the limited practice shows that courts view damage assessments based on estimated remediation costs more favourably than those based on non-market standard rates and formulas. The so-called "scientific" methodologies do not usually allow plaintiffs to sustain their burden of proof in court and withstand the legal attacks of enterprises, which have resources that allow them to hire technical experts and seasoned defence lawyers.

Individuals or non-governmental organisations rarely initiate legal actions against violators. Citizens' enforcement is limited due to the lack of plaintiffs' legal knowledge, high court fees plaintiffs have to bear in case of a negative court decision, high costs of legal services, etc. In general, many citizens still, as in the Soviet period, seek to redress violations through complaining to executive bodies rather than bringing law suits.

The Federal Law "On the Safety of Hazardous Industrial Facilities" (1997) mandated environmental insurance against accidents for industrial facilities generating or handling hazardous substances or wastes. Only insurance companies approved by the Ministry of Finance are eligible to insure environmental risks. The law requires coverage for liability to physical and juridical persons and the state in case of accidental pollution releases.

While there have been experiments in different constituent entities of the Federation, there is no coherent nationwide environmental insurance scheme. The core reason for this is the lack of damage compensation claims that would trigger a real need for insurance coverage. Currently, Russian insurance companies do not anticipate that they will be liable for any environmental damages and view the premiums as income.

14.7. Management Aspects of Compliance Assurance

Funding of compliance assurance activities

RTN is fully funded from the federal budget (there are no administrative fees for permitting and inspection). Its budget is relatively stable: about 80% of it is allocated to compliance monitoring and enforcement activities, while 10% is spent on environmental impact assessment, and permitting accounts for less than 5%. No resources are allocated for compliance promotion.

Strategic planning

Several documents guide the activities of environmental enforcement authorities in Russia but there is none that would specify objectives and compliance targets, and would then identify the optimal mix of compliance assurance tools to best achieve strategic objectives.

Since the introduction of performance-oriented budget planning in 2004, government programmes in Russia have to include measurable targets and supporting indicators to monitor the achievement of goals. The "Report on the Results and Main Directions of the RTN Activities for 2007-2009" contains a long list of quantitative targets, including composite indices for:

- Non-compliance (accidents and violations) at hazardous industrial installations, in relation to the number of regulated entities;
- Intensity of compliance monitoring by category of regulated installations;
- Effectiveness of compliance assurance (a ratio of the intensity of compliance monitoring and the rate of non-compliance); and
- Level of negative impact from the regulated installations (a ratio between the volume of pollution release and the production volume).

However, RTN does not measure the effectiveness of using its own resources.

Performance assessment

The environmental enforcement authorities in Russia monitor over 30 parameters that characterise their institutional performance. These environmental compliance and enforcement indicators constitute mostly activity counts and are officially published in annual reports on the state of the environment or annual activity reports of the environmental enforcement authorities. Internal reports also contain various "input" and "output", as well as composite index indicators. The compliance and enforcement indicator data are routinely collected within a structured framework, with clear procedures, in prescribed formats, and using standard information technology. Regular reporting to internal and external audiences ensures a certain level of operational monitoring and accountability.

The scope of collected data is comprehensive: the indica-tors cover the entire body of environmental legislation and are broken down by medium-specific programme areas, both at the federal level and in constituent entities of the Federation. The data can be tracked by industry sector and geographic area, non-compliance patterns are analysed by specific articles of the Administrative and Criminal Codes, outputs are relatively well recorded, and sector-specific offences can be easily identified.

Special emphasis has been placed on establishing the mechanisms for ensuring internal accountability. These include semi-annual and annual reporting from constituent

entities of the Federation, operation monitoring by managers, cross-regional analysis of results, agency-wide annual meetings that gathered representatives of all constituent entities of the Federation, and missions of federal-level officials to the regions. In addition, internal audits are used to identify cases of mismanagement or misbehaviour that are often made known to the general public through the Ministry's web site.

Overall, however, the benefits of compliance and enforcement indicators have been lower than could be expected given their comprehensiveness. The existing indicators still reflect the traditional approach to compliance assurance which is based on detection of violations and violators and their punishment. The enforcement authorities measure the intensity of inspection and the extent of applica-tion of enforcement tools but do not try to show the connection between these activities and expected environmental changes.

Staff training

RTN has well developed training programmes (including those for online training) and uses both internal and external trainers. For example, in 2006, 432 RTN staff underwent federally-funded training in such areas as compliance monitoring, environmental impact assessment, energy audits, etc.

Notes

1. RTN reported directly to the Prime Minister before it was subordinated to the reorganised MNRE in May 2008.
2. State of the Environment Report (2005).
3. State of the Environment Reports of the Russian Federation, *www.mnr.gov.ru* (1997-2005).

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Ensuring Environmental Compliance

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